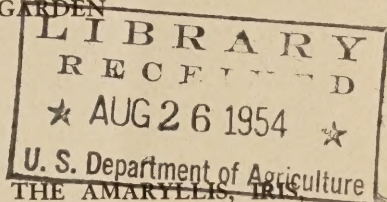


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BULBS FOR POTS

AND FALL PLANTING IN THE GARDEN



A CATALOG OF THE BULBS AND PLANTS OF THE AMARYLLIS, IRIS,
ORCHID, GESNERIA AND OTHER PLANT FAMILIES
AND MANUAL OF THEIR CULTURE.

Many Reduced Prices. New Items Listed. Complete Culture Directions.
A Personal Letter, — to You

FALL 1954



CECIL HOUDYSHELE

1412 Third St.

La Verne, Calif.

Librarian
U.S. Department of
Agriculture
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A PERSONAL LETTER — TO YOU

Dear Floral Friends,

We receive so many letters from customers and friends during the intervals between catalogs, which I am unable to answer individually, that long ago we began to answer all in an introductory letter in our catalogs. A great many of our customers have expressed their appreciation of the letters and have approved the practice so that now if space does not permit a long letter, they tell me they have been disappointed.

There is something about a garden that makes one think. Most gardeners become philosophers in their own small orbit and the more we live with plants and observe the phenomena of their lives, the more that orbit is enlarged to include finally all life, even human life and its problems of health, social progress, relations with our fellows, education, religion, everything that pertains to it.

Gardens also develop our creative abilities even to the degree of talent and when one becomes creative he soon begins to use the talent not alone for self but for family and friends and many indeed strive and succeed in accomplishing something for their entire neighborhood. The whole world can become one's neighbors.

Don't think that I am saying that such a course of events starts only in a garden. It may start in a telegraph office as it did for Edison. Luther Burbank's started in a garden. Both have benefitted the entire human race.

I believe my floral friends will never be surprised at the direction taken by my thoughts expressed in these letters because their own thoughts have often taken the same direction. I like to quote those ideas as they have been expressed by the great poets or philosophers. One of the best is in a little scrap book I have. It is the definition of an educated man. The original author was unknown to the writer who quoted it and I am unable to find its source.

"The educated man keeps his mind open on every question until the evidence is all in.

"He always listens to the man who knows.

"He never laughs at new ideas.

"He cross-examines his day dreams.

"He knows the value of good habits and how to form them.

"He knows when to think and when to call in the expert to think for him.

"You can't sell him magic.

"He lives the forward-looking, outward-looking life.

"He cultivates a love of the beautiful."

This reminds me of Thomas H. Huxley's definition of

A Liberal Education.

That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will and does with care and pleasure all the work that as a mechanism it is capable of; whose intellect is a clear cold logic engine with all its parts of equal strength and in smooth working order ready like a steam engine to be turned to any kind of work and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with the great and fundamental truths of Nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself.

I have quoted this Huxley definition before but it is apropos here.

This following is from Seneca, a contemporary of Jesus. "A good mind possesses a kingdom."

And this from Arthur Guiterman,

"Education is Making Men;

So is it now, so was it when

Mark Hopkins sat on one end of a log

And James Garfield sat on the other."

Important tho they be, the philosophers say nothing about College courses or University degrees. Many who have had them could not qualify under the above definitions. But the saving truth is that many others could and these are likely to be true benefactors of humanity together with many who have had little formal education.

If formal education loses sight of the true aims of education as touched upon by these definitions, then it is the fault of the public in that they do not demand it. Nor do they demand that instructors meet Huxley's definition.

It is time for us to consider our garden. I commend this catalog to you. I know it will not quite merit Anatole France's praise, "I do not know any reading more easy, more fascinating, more delightful than a catalog," but it will make a lot of valuable suggestions about what to plant.

Altho we have tried to say more in fewer pages in this catalog, there are more pages about African Violets and more varieties listed than ever before. More questions that you have wanted to know about have been answered.

Please note our own introductions, Los Angeles and Inamorata (meaning "inviting to love"). Also note many other California introductions by Mrs. Rector, Edith Hendrix and others.

We believe we grow the finest list of varieties on this coast and we ship them from Hawaii to Denmark and West Germany and from Kodiak, Alaska, to Argentina. Our plants are even growing in South Arabia, tho it's impossible to ship them there. They must be carried by hand.

Mrs. Houdyshel has charge of growing them, selecting plants for orders and she gives many lectures illustrated by slides on the subject of these and other plants. She also rents slides in sets of 50 and 100 on various types of plants.

Our offerings of Amaryllis this year should please every one who loves them. From one whose ambition extends only to the possession of one bulb of the easiest of all to grow, a "Hardy Hybrid," on up to the collector who wants 15 of the world's very best, from Holland.

We have been importing Amaryllis from Europe for 42 years. Our first orders for bulbs and seed went to England in 1912, when the best hybrids were being produced by the Aigberth Nurseries, (Ker) of Liverpool and by Veitch's.

I had already seen the complete collection of Luther Burbank at Santa Rosa several times and had bought many from him. For that day, they were wonderfully fine but the English hybrids surpassed them because the species of Leopoldi and pardina were in their ancestry and thus a new type, Leopoldi hybrids, had been introduced.

Leopoldi hybrids have a shorter trumpet and an improved, rounded contour. The petals are broader, the colors improved and refined.

We flowered our imported bulbs and the bulbs raised from 1000 or more imported seed here on our "Rancho de Las Flores" in La Verne. They were a revelation of beauty. But they did well in the open ground only as long as we were able to give constant, close and personal attention. They were gradually diminishing in number.

In the following years we imported many times from Holland. In one instance we bought 1000 bulbs, classified by colors only, and in another we had some Royal Dutch Hybrids. The latter did better than any we had previously tried and they were finer.

We have bought many times in Holland and thus we have a basic knowledge of Holland Amaryllis for comparison of quality. But we do not call ourselves "big."

In the meantime we were buying stock of the Howard and Smith firm of California. This firm of growers and breeders has produced the best and hardiest type in America.

All this and more was told in our article in Nov. '53, Flower Grower. We have only 4 copies of this issue left. The price is 25c per copy but sale is limited to those who accept our offer of 15 varieties of Royal Dutch and Ludwig named varieties for \$87.75.

Last year we tested a number of the Ludwig strain, including their wonderful red, A. Wyndham Hayward, and this catalog lists several of what we believe are their best, including **Love's Desire**, a 1954 introduction which they say is their best pink. We also will have a sufficient number of Royal Dutch "Red Master" at a reduced price. This is believed to have the largest flowers and they are a fine dark red color. We could not fill many orders last year for Red Master.

We ship California grown Amaryllis in November, as early as they become dormant. We hope to receive Dutch bulbs also in November and will fill orders as soon as they arrive. We like to send them all out before December 1 and thus avoid the Holiday mail congestion and cold weather.

However, we pack Holland bulbs in plenty of peat and they will be sufficiently insulated in case of cold weather, early. This peat also contains a tablespoonful of bone meal and a teaspoonful of blood meal for fertilizer and we expect you to add it to the potting soil of your Amaryllis.

We advise you to order Amaryllis early and ahead of the shipping date. We believe we have enough, but who knows?

We have built a new greenhouse this year in which to grow Amaryllis and Achimenes. Also a few Fancy Leaf Caladiums of the newer types and a very few Haemanthus multiflorus. All of these items will be listed in our Spring Catalog. The Caladiums will all be new sorts, mostly the "lance leaf" and "strap leaf" sorts that are hard to get and cost more.

We were grieved to drop a few thousand names from our mailing list this fall. We would like to but we can't afford to send catalogs unless you buy from us. We hope that every one who receives this catalog sends us an order and thus remains eligible for a spring catalog.

Wishing you much success in your gardens, good health and happiness,

Sincerely,

Cecil Houdyshel

P.S. We have ordered a few extra catalogs this fall. Please tell your garden friends or your garden Club to send us a post card request for a free copy.

TERMS AND INSTRUCTIONS FOR ORDERING

Prices in this catalog cancel all former prices. They are for one bulb unless otherwise stated. 12 bulbs are sold for price of 10 or 6 for price of 5. 100 bulbs for price of 70 unless noted. Books, garden supplies and plants take no quantity discounts. California customers must add 3% Sales Tax.

Remit in advance, in full, by check or M.O. No C.O.D. No charge accounts carried. Nothing reserved unless paid for in full. These terms reduce our expenses and lower the costs to you. Checks and M.O.'s must be payable to Cecil Houdyshel to fit our endorsement stamp. 1, 2 or 3 cent stamps are accepted for small sums.

Postal rates have more than doubled but we still prepay all items unless listed, "postage extra" when the order is for \$1.00 or more. If under \$1.00, send 15c extra. If you wish to add a little for postage it will not be refused. When postage extra is required or if sales tax is due and you do not send, we notify you before shipping and charge you 5c for the notice. Thus we both lose. Better to send in the first place.

If you want your order to go **Express Collect** for added safety and protection we include either larger sizes or extras. If by **air mail** we charge the customer only the excess cost above that required by regular parcel post. Estimate this and state you will promptly pay the difference if not enough.

Insurance up to \$5.00, costs 5c extra. \$5.00 to \$10.00, 10c. \$10.00 to \$25.00, 15c. Over \$25.00, cost is in proportion to \$25.00 value rate. Postal insurance covers all except freezing in transit. Only Express covers freezing. **Special Handling** costs 15c up to 2 lbs. 2 to 10 lbs., 20c. **Special Delivery** is better as it also speeds delivery and is handled more carefully. We are not responsible if plants are not immediately taken indoors. Up to 2 lbs. costs 35c. 2 to 10 lbs., 45c. Over 10 lbs., 60c. Each fee is for one package only.

Order blanks. Make your own. They should not be in letter form as this makes it difficult for packers. Place one item only in a line, in this order. 1. Quantity ordered. 2. Name of item but not description. 3. Price of item. Below add other extra expenses like sales tax, insurance, Special Delivery, postage if required.

A letter that requires an answer, when included with order, is referred to me and will likely cause delay of delivery. I am often a month behind with correspondence.

Wholesale. We give no discounts to dealers. There are several items we can supply wholesale. Send your want list and we will quote our best quantity prices.

Foreign Orders. If postage exceeds that to our 8th postal zone we charge the excess. Include a little extra for excess postage. **Canadians** should apply to Sec. of Destructive Insect and Pest Act, Advisory Board, Ottawa, Ontario, for Permit and labels and send with order. Many Latin American countries have laws governing importations. Be sure to inform yourself and act accordingly. Ask your Postmaster. Usually only a permit is needed.

Partial Shipments are made if bulbs are not all dormant at same time. We deliver everything within the season for correct planting.

We **guarantee** our bulbs to be true to name and healthy and replace them if not. If you follow our directions in this catalog, they will grow and flower. We cannot assume responsibility if you do not. Such a guarantee usually means that the expense of replacements is spread over the entire sales and everyone pays more for the plants. Everyone fails sometimes and we try to learn from our failures. As necessary **culture directions** are in this catalog, we send none with the bulbs and other plants.

Catalogs. Spring Catalog mailed Jan. 15. Fall Catalog, Aug. 15, or soon after. If you do not send us your orders your name is dropped from our mailing list. If not interested please refuse catalog or ask P.M. to return at our expense. Current catalogs are free. If an old catalog is wanted, please send a dime for it.

We appreciate it if you show our catalog to your friends and recommend that they send a post card request for a copy.

We ship to every state and territory and to every continent. Calif. bulbs and plants do well, everywhere.

General Culture Directions

Rich sandy loam is the best soil. But if too sandy, it may lack fertility. It will require more rainfall or irrigation. The ideal garden soil will contain sand, clay and humus. Some plants, like Bearded Iris do best in a heavy soil. Plants of this nature seldom if ever like shade or acid soils and deep drainage is not so necessary. Some plants, like Gloriosas must have deep sandy soil. Probably most tuberous plants prefer sandy soil.

All soils require the addition of much humus. Compost all garbage, weeds, leaves, cut branches and manures. When rotted, add to soil and thoroly mix.

Fertilizer. We recommend only animal manures, compost and commercial fertilizers that are mostly of organic origin such as Spoonit, listed in this catalog. In the outside garden fresh manure can be used on most plants that are growing vigorously as a very light mulch, but after flowering. Too much fertilizer before flowering may almost or wholly stop the flowers. When the growth of a plant becomes abnormally rapid it is unlikely to flower or produce fruits.

Do not fertilize a plant in dry soil, or use any fertilizer (unless thoroly rotted in a compost heap) in the soil before planting bulbs, seeds or plants. Water lawns, trees, and plants well the day before applying fertilizer and again a few days after application. Do not fertilize a sick plant in order to make it well. You are more likely to make it worse or even kill it. Small plants and seedlings should not have too much either. Lush, rapid growth may be weak and "flabby." Sturdy growth with firm structure is better.

Compare plants with people. Both are living, organic beings. Air, water and food are necessary to their growth and health. But one does not give babies beefsteak, fried potatoes, apple pie and a cup of coffee. Nor is this a good diet for an invalid or an ill person, however good it may be for one in vigorous health who performs hard physical labor. Nor should plants be over-fed or fed at all if sick or thirsty. But since one cannot add much rich food when potting a bulb, very good results may be obtained by a monthly feeding of very weak liquid manure, color of very weak tea. A more convenient way is to use Spoonit, which we list under Garden Supplies.

After blooming, many neglect their bulbs. As a result the bulbs do not flower the following year. For success one must continue to give good culture. This is the time to fertilize, irrigate and cultivate frequently, until yellowing foliage indicates the bulb is becoming dormant. During this growth period next year's flower buds are formed.

Depth of planting and distance apart often cause too much concern. Bulbs usually have sufficient adaptability to do well under widely varying conditions. If left in one place a few years, most bulbs adjust themselves to their preferred depth. Approximately, bulbs should be about 2 or 3 times their diameter apart unless their habit of growth is spreading—like Ranunculus. In such cases plant farther apart. Bulbs as large as Daffodils may be 4" to 6" deep. Bulbs with a heavy erect stem need deep planting in order to remain erect. Plant deeper in light sandy soil than in heavy soils and in cold climates to protect them from frost.

Pests. Snails, slugs, ants, mealy bugs, thrips, aphids, leaf hoppers, mites, red spider and scale are among the most serious pests in the garden or on house and greenhouse plants. They must be controlled.

See our listing of **Insecticides** under **Garden Supplies**. Their uses are explained there.

Acid and Alkaline Soils. Most plants thrive in mildly acid, neutral or mildly alkaline soils. But others do not have so wide a range of tolerance. Rhododendrons, Azaleas, Camellias, Gardenias, Zantedeschias, Caladiums (and other members of Arum family), Nerines, Haemanthus, Gloxinias, Begonias, Orchids and most shade loving plants require an acid soil. Some like Gladiolus prefer mildly acid to neutral soils; Bearded Iris do best in neutral to alkaline soils. The acid-alkali balance depends upon the concentration of hydrogen ions in a saturated solution. This is expressed in pH units. pH7 is neutral. Below that the acidity increases; above it the alkalinity increases. For the mathematical, I will explain that the numeral is the negative logarithm denoting the concentration of hydrogen ions in gram atoms per liter.

In regions having heavy rainfall, excess alkali is usually dissolved and carried away by the runoff. Semi-arid regions usually have alkaline soils. Calif. soils usually have too much unless cover crops or applications of humus, which are acid, have lowered the pH. I am told that Texas soils are sometimes too alkaline. The remedy is obvious. Apply humus, ground phosphate rock, or small, even applications of sulphur. Improve the drainage.

Chlorosis of plants, indicated by lighter green streaks of foliage, may not be due to a virus disease, in all cases. It may indicate lack of all required nutrients, some of which can not go into solution in an alkaline medium. Among such nutrients are Nitrogen and Iron which are soluble only in acids. Mild acidity is usually best.

Potting Directions. Use clean pots of the right size, neither too large nor too small. A 2½" *Amaryllis*, for example, needs a 6" pot. A 1½" *Eucharis* needs a 5" pot. Small bulbs like *Ranunculus* or *Achimenes* may have 3 to 5 in a 5" or 6" pot. Cover the hole at bottom with a piece of broken pot, concave side down. Above this place small pieces of broken pot and gravel. This helps to drain away excess water. Over this drainage material we usually place a handful of sphagnum moss to prevent the soil from sifting into and clogging the drainage material.

The drainage must be perfect and it is essential that the soil above this drainage be of a friable texture that permits water to pass thru freely. Only very sandy soil will answer this purpose and the sand should be rather sharp and coarse. Add enough sand so that it feels very gritty. The potting soil we like best is about 2 parts of peat or leaf mould and 1 of sand. If peat is used a little woods earth or pure rotted leaves and twigs may be added. Plain dirt, especially if clay is present or any mixture that becomes lumpy when dry is likely to produce poor results. Mulch surface with wet sphagnum to prevent erosion when watering and too rapid drying at surface.

Basketing. Vining or pendant plants like *Achimenes*, *Aeschynanthes* and several of the other *Gesneriaceae*, *Begonia Lloydii*, *Ceropegias*, etc. look best and do best in our wire baskets, altho they can be grown in pots, suspended by the "Snap-on" pot hangers. Wire baskets allow perfect drainage and we prefer them also for some orchids like *Laelias*. We offer the best wire baskets made. Painted wire baskets soon rust out. Ours are galvanized, polished, not soldered but welded.

Place a thick layer of wet sphagnum on bottom and sides of basket. It should be well compressed and at least 1" or 2" thick. For the center one can use a mixture of peat, leaf mould and sand—or any soil formula favorable to the plant. For certain Orchids, *Episcias* and sometimes other plants, we use only sphagnum thruout.

Fertilizers for pots and baskets. The soils recommended above are low in fertility. One cannot add enough to last an entire season. Such an amount would burn the young roots as rapidly as formed. A small quantity of dry, powdered dairy manure is safe but we seldom use it. We prefer to add 1 tablespoon full of bone meal which is slowly soluble and slow acting and a teaspoonful of blood meal, which is strong and quick in action, to each 6" potful of soil. Too much blood will burn. When plants are in full growth, they may be fed with weak liquid manure, color of weak tea every 3 or 4 weeks. **Spoonit** supplies a more complete ration, better balanced and more convenient. Use of inorganic forms of nitrogen can have bad results.

Temperatures and light exposure are discussed with the listings.

Sources of Further Information. Always consider the source of your information. Experience is worth more than reading knowledge. Commercial growers usually have had the experience. Please note our **Garden Reference Books**. Join local Garden Clubs. Subscribe for as many Garden Magazines as you have time to read. We especially recommend **The Flower Grower**, Dept. H., Albany, N.Y., **Popular Gardening**, Dept. H., Albany, N. Y. **Horticulture**, Dept. H., Boston 15, Mass.

GARDEN REFERENCE BOOKS

Bailey's Cyclopedia of Horticulture. This 3-vol. set of over 3,600 pages describes almost every cultivated plant and has a wealth of culture information. On Orchids alone this work is most valuable for its descriptions and culture instructions for almost every orchid in cultivation. The same is true for all types of bulbs, plants, shrubs, or trees. Price \$45.00. It is the most monumental work in any language on the entire field of Horticulture. It is an ideal gift for a plant lover.

Hortus Second (Bailey). A concise Dictionary of Gardening. This 778-page volume lists and describes nearly every plant offered in catalogs, and some that are not in the Cyclopedia of Hort. It contains only a few culture hints. Both works should be in every garden library. Price \$12.50.

Hortus Second is a valuable work for the studious gardener. For that reason we are offering this for \$10.00 until our stock is sold out.

All books are subject to price changes, without notice, by the publisher. In the case that prices again rise on any book listed here we will notify the customer. The customer may then accept or cancel order.

Amaryllis and How to Grow Them. By Peggy Schulz. This book was written for amateurs and by a well known amateur. It contains much useful information that will help you to succeed in growing them; informs you about the better species and the finer strains of hybrids. 128 pages, many line drawings, photographs and two colored plates. \$2.95.

A Southern Garden, by Elizabeth Lawrence, a handbook for the Middle South. A most useful handbook for all gardeners, north or south. Bulbs and all garden plants. 251 pages. Price, \$3.50.

Enjoy Your House Plants. Excellent handbook of window gardening by Dorothy Jenkins and Helen Van Pelt Wilson. 238 pages. Price, \$3.00.

American Orchid Culture. Edward A. White. This is a complete handbook of American Orchid Culture for both commercial and amateur growers. Most interesting accounts of Orchid hunting trips, in many lands, are related. 14 beautiful color plates and many other illustrations. A beautiful, interesting, useful book. 276 pages. \$6.00.

Greenhouse Gardening For Everyone. Ernest Chabot. Important factors are noted, including correct temperatures for forcing plants, bulbs, and orchids. 266 pages, \$4.00. If you have a greenhouse, this is a necessity.

How To Grow Rare Greenhouse Plants. A new book on greenhouse gardening by Ernest Chabot. Complete directions for greenhouse culture of 260 rare plants. Being non-professional or amateur, Mr. Chabot knows best an amateur's problems and how to advise him. Everyone having a greenhouse should have both books. 182 pages. Illustrated. \$4.00.

Geraniums, Pelargoniums, by Helen Van Pelt Wilson. 248 pages, 7 color plates, many drawings and illustrations. Best book on this subject. \$3.95.

Gloxinias, and How to Grow Them, by Peggy Schulz. The author is co-editor of The Gloxinian and a prolific magazine writer on a great variety of house plants. She bases advice on long experience. This is the only book on this subject and every grower should have it. Well illustrated by colored plates and line drawings. Many Gloxinia relatives discussed, 128 pages. \$2.95.

Tuberous Begonias, by Worth Brown. Mr. Brown is one of our most important hybridizers and wholesale growers. His book is a complete guide for the successful growing and propagation, outdoors or as house plants. 128 pages, illustrated. \$2.75.

Bulbs For Beauty. Charles H. Mueller. 296 pages, illustrated. Experienced gardeners will gain new information about bulb culture from this book. Price, \$3.50.

How To Grow Orchids. By Cecil Houdyshel. A 12-page pamphlet, no illustrations, carefully explains requirements of easily grown orchids. Price, 25c.

How to Grow Cattleya Orchids and a few others is told briefly in our 1949 Orchid Price List. The listings are now all cancelled. Price, 15c.

The Complete Book of African Violets. By Helen Van Pelt Wilson. This is completely new and gives best information on hundreds of varieties. 29 Saintpaulias are shown in full color. 256 pages, fully illustrated. \$2.95.

How To Grow African Violets. By Carolyn Rector. 94 pages, paper-board covers. Illustrated. How to pollinate, hybridize, grow from seed or leaf cuttings, prepare soils, control pests and diseases, groom plants for show, etc., by a real grower. \$1.35.

The Book of Trees. By Alfred C. Hottes. 200 illustrations. Everyone loves trees and this book describes all worthwhile trees, their stories, uses, culture; historical trees; lists for every situation. Mr. Hottes knows trees and writes in a charming style. 440 pages. \$4.00.

The Wise Garden Encyclopedia. By a group of American authorities. Edited by E. L. D. Seymour. 1,380 pages. Profuse illustrations. 64 pages in color. Price. \$5.00.

A to Z On Fuchsias. 136 pages. Cloth bound. Illustrations, some in color. 700 varieties described. \$3.00.

Garden Supplies

Postage Extra is necessary on several items below. The weight when packed is given on these items. It is clearly stated that you must send the postage when you order. Many do not and we must write for it. Here is how to find it. We are very near Los Angeles. Call your P.O. and ask the cost of postage on the packed weight given from your P.O. to Los Angeles and send us that amount. If you do not send the postage in full with order, (sales tax too if in Calif.) we write and ask for it before shipping and charge you 5c extra for the notice.

If your shipment goes by express, no postage is due. But the minimum cost of an express package is now \$1.85, any weight, any distance.

Snail-Kil Pellets. 1 lb., 45c, plus postage for 2 lbs. Two pounds, 75c, plus postage for 3 lbs.

Ant-B-Gon. Set of 4 filled dispensers, 75c, plus postage for 1 lb. Refilling liquid, 4 oz., 40c postpaid.

Volt Oil Spray, for outside plants. Kills mealybugs, scale, red spider, etc. Don't use on orchids, saintpaulias, or most house plants, palm trees or ferns. Fine to clean up your shrubs, trees and most outside plants. 4 oz., 50c, postpaid.

Thrip O cide. Contains DDT. Kills thrips on Gladiolus or other plants. Scale on Orchids. 4 oz., \$1.20 postpaid.

Vio-Vim, a fungicide and Bactericide for African Violets. 75c prepaid. Its effect is apparent in the stimulated growth of the plant.

Wonder Garden Spray. Spray as directed for cyclamen mite, mealybug, red spider and other pests. \$1.10 prepaid.

We assume no risk for results with insecticides.

Spoonit is the fertilizer we use on African Violets and on all house plants. A new, improved formula is now available. **Analysis:** nitrogen, 18%; phosphoric acid, 20%; potash, 17%. To use, dissolve level tablespoonful in 1 gal. water or level teaspoonful in 1 qt. Give transplants half strength. Apply once a month. It never burns. **Prices.** 6 oz. package 50c plus 8c postage. 15 oz. pkg., \$1.00, plus postage on 1 lb. (see paragraph 1 above.) 44 oz. pkg. \$2.00 plus postage on 4 lbs.

Potting Soils. We have not formerly listed potting soils but give soil formulas and list materials for making them, but many prefer to buy a ready made mixture.

Black Magic, African Violet Mix. The users praise it. 8 oz., price 45c. Plus 10c postage. Dampen before using.

Georgia Peat African Violet Planter Mix is close to a perfect soil for African Violets, Gloxinias and others. Contains nitrogen and trace elements. Large bag, 160 cu. in. about 24 oz., 60c plus postage on 2 lbs.

Canadian Horticultural Peat. High quality. 3 lbs., 50c, f.o.b. Send postage for 4 lbs.

Sphagnum Moss. Best we can get. 70c per lb., postage extra, for 2 lbs.

Osmundine, best Florida brown fiber \$1.35 per lb. package, postpaid.

Plant Labels. The following are plastic labels, easily written upon with pencil. **Pot**

Labels, length $4\frac{1}{2}$ ", 35c doz. Length $3\frac{1}{2}$ ", 30c doz. Small labels for African Violets, 2" long, 30c doz. **Orchid Labels**. Perforated on one end, but without wire or cord, $2\frac{1}{2}$ ", 30c doz. **Aluminum Tree Labels**. Emboss name on label with sharp pencil or ball point pen. Two sheets of Aluminum make this strong and permanent, with wire to tie on, 35c doz. Package of 50, \$1.00. Please include with order of \$1.00 or more or send 15c extra for handling if order is under \$1.00, on all label orders.

Wire Baskets. Our wire baskets are electrically welded, galvanized, non-rusting. The best obtainable. They look better, last longer than painted, soldered baskets and cost but little more. Price, with hangers, 8", \$1.00. \$11.00/doz. 10", \$1.25 ea., \$13.50/doz. 16", \$2.75 ea. \$25.00/doz., postpaid.

Snap On Pot Hangers, for hanging any size pot. Galvanized. 50c ea. \$5.00 doz. postpaid.

Baffle Spray Fogger. For greenhouse, lathhouse or outside. Fits $\frac{1}{2}$ " pipe. Adjustable fog spray thrown 6 ft. increases humidity, lowers temperature. Price, \$1.36. If by mail add 10c.

Hose End Fogger. Coarse or fine spray. Useful for spraying orchids, tub. begonias, etc., and for damping greenhouse to increase humidity or as a moveable fogger. \$1.50. Postage, 10c extra.

Rootone. Dust seed, roots of transplants, end of cuttings or base of bulbs for quick rooting, more rapid growth. $\frac{1}{2}$ oz. 50c postpaid. 1 lb. can, \$5.00, plus postage for 6 lbs.

Vitamin B-1, 100 tablets. 75c.

Directions for use, applying only to our own tablets. In transplanting bulbs or any plants, loose roots, dissolve 5 tablets in 1 gal. of water. Soak roots in this 15 to 30 min. Pour solution around plant when set. To stimulate growing plants, for the first application, dissolve one tab. in 2 gal. water. For succeeding waterings, use 1 tab. to 4 gal. water once a week. **Warning**. Do not soak dormant bulbs in Vit. B-1. It rots them.

CATALOG ARRANGEMENT

is by Plant Families, according to their relationship.

In the following lists the **genus** (plu. genera) is mentioned first. After it, the species (plu. also species) or horticultural variety is named. The initial of the genus is used for the second and succeeding species. Thus A. will stand for Amaryllis or Agapanthus depending on the genus last named in full.

THE AMARYLLIS FAMILY — Amaryllidaceae

This Family includes the following bulbs, Agapanthus thru Zephyranthes.

The **American Plant Life Society** was founded in 1934 as The American Amaryllis Society. The interests of the Society have recently been enlarged to include other bulbs and plants and the name changed but with no lessening of interest in Amaryllids.

The annual book, "**Herbertia**," is devoted to Amaryllids. It consists of about 250 pages, beautifully illustrated, on fine book paper, and is edited by Dr. Hamilton P. Traub of the U.S. Dept. of Agriculture, (now retired) the greatest living authority on the Amaryllidaceae. Each member receives a copy.

The members also receive the occasional publication, "Plant Life," on other bulbs and plants. Due to present shortage of paper and its high price these publications at present are included in one volume per year.

Those who grow Amaryllis as an interesting and intellectual hobby and who love their vivid beauty, are invited to become members of the society. The annual dues are \$3.00 per year, which you may send to Mrs. Lydia Barnett, Membership Sec., 3162 Haven Park, El Monte, Calif., or you may include this membership fee with your bulb order to us.

The Society also publishes the following book, bound in Manila paper.

Amaryllidaceae: Tribe Amaryllae, by Traub and Moldenka. 18 illustrations, 194 pages, \$4.00. This is a systematic treatment of one of the main tribes of Amaryllids, in

scientific language. The most important work on the taxonomy of Amaryllaceae since the publication of Baker's "The Amaryllidaceae," in 1888. Order from Mrs. Barnett.

"**The Complete Amaryllis Handbook**" is a new book by Dr. Traub. This book, written in popular style, should be owned by every one who grows a few or many Amaryllis, as you will see by the following condensed digest of Chapters and Appendices. Amaryllis is abbreviated, "A."

The name, "A"; The A. Plant; Wild A. (species); cultivated A. thru the years; Divisions of Cultivated A; Long Trumpet and Belladonna type hybrids; Orchid flowering, Double and Miniature type hybrids; A. Breeding; A. Propagation; A. Culture; A. Diseases and Control; A. Pests and Control; A. Marketing; A. Shows; Cultural Value; Glossary of Terms; Descriptions of Species; A. Organizations, Nurseries, Dealers; Index. No one but Dr. Traub could write such a book. We expect that publication may require 6 mo. to 1 yr. Stay on our mailing list and you will see it listed when finally ready.

Amaryllid nomenclature. Carolus Linnaeus, father of modern botany, made the first, rather complete scientific arrangement of plants according to relationships in the 18th century. His information about many plants was wholly inadequate to achieve perfection. Even in my later first French edition, 1798, nearly all American epiphytic orchids were placed in one genus, Epidendrum, and under the genus Amaryllis he included certain Crinum, Zephyranthes, Sprekelias, Brunsvigias, Nerines, etc. Botany is a progressive science and later explorations and discoveries have made possible many improvements in plant classification and have required changes in nomenclature. Horticulturists are often loath to accept the new classifications and names. But we must do so even if inconvenient at first. It is not logical to continue an error.

In our catalogs, we accept changes in classification and names as made by recent writers in Herbaria. These have been approved by "Gentes Herbarum," the publication of the Bailey Hortorium of Cornell University. To help you avoid ordering a bulb you already have we give both old and new names, thus: Brunsvigia rosea (Amaryllis belladonna); Amaryllis advena (Hippeastrum advenum).

Agapanthus, Blue Lily of the Nile. They flower here in June to Aug. In the north they must be grown in large pots or tubs and wintered in a frost free room. Plant in full sun exposure in any good garden soil.

Agapanthus longispathus. Similar to well known A. orientalis, but smaller and earlier to flower. Profuse bloomer. For pot growing. 50c, 3 for \$1.25.

A. orientalis. Dark Blue. More robust than longispathus. Superior clone, \$1.00.

A. orientalis, Sky Blue. 75c.

A. orientalis alba. Pure white. \$2.00.

A. von Weillighi hybrids. Selected clone. A giant type, very large, round umbel of blue flowers on a tall stem. \$2.50.

Alstroemeria (pronounced-stre, not stro). The Peruvian Lily. Many showy flowers in an umbel on long, slender, stiff stems. The pastel tones are rich and varied, long lasting and popular as cut flowers. Spring blooming.

Culture. They must have good underdrainage and therefore if possible, sandy soil. In heavy soil, their cultivation is made possible by the plentiful addition of sand and leaf mould. 60% to 75% sun exposure. Natives of Semi-tropical America, they have been grown as far north as New Jersey in the garden. This has been possible by planting large tubers about 5" or 6" deep and giving a heavy mulch. There is some danger of freezing and consequent loss in the north the first two winters. By that time they have usually deepened themselves below the depth of frost penetration. We cannot guarantee against loss by freezing, but we offer large tubers that will help.

Alstroemeria chilensis hybrids, assorted colors, red, rose, pink, cream, white in a multitude of shade. Separate colors not available. Large tubers 50c.

A. pulchella. Smaller plant. Umbels of green and red fls. 50c.

A. assorted varieties. These will be smaller clumps. 40c. \$4/doz.

A. Seed. Assorted varieties. Plant as soon as received. Packet, 50c.

Amarcrinum Howardi. Bigeneric hybrid of Brunsvigia rosea and Crinum moorei.

Does well in average garden soil, full sun in the south. Probably hardy to Ky. Late summer to fall bloomer. Fls. pure pink, very attractive. \$2.00.

Amaryllis Linn. This genus as constructed by Linneaus was untenable because he included plants now known to belong to other genera. The invalid name *Hippeastrum* was used by both Herbert and Baker, but now we are scientifically correct when we use the name that has always been most popular.

Amaryllis are the easiest, the most showy and popular of all bulbs for growing in pots. Equally desirable for southern gardens where they are hardy along the east coast to N. Car. and on the west to Vancouver. In the middle section they may be grown as far north as Ark. and Okla., but note special directions for colder sections.

How to Grow Amaryllis. In the garden, in the deep south where temperatures go only a few degrees under freezing, Amaryllis bulbs need to be covered only about an inch or two. Farther north they may be planted deeper in protected places and mulched with straw, leaves and/or brush. In Okla., a customer reports a depth of 4" with mulch is safe. Try our "Hardy Hybrids." Amaryllis must not be planted close to trees, shrubs or large vigorous plants, whose roots compete and take the moisture. Irrigate frequently. Rain is seldom enough. The most common error is lack of sufficient moisture. They are endemic to the tropics and in many cases, where there is almost daily rain. We have never had an employee whom we could trust to water Amaryllis enough. The soil should contain a good percentage of humus. Add well rotted manure and if not slightly acid, add some peat but do not acidify the soil with sulphur or aluminum sulphate. We do not advise planting imported, greenhouse grown bulbs in the outside garden.

In Pots. A 1½" bulb requires a 6" pot. Give a 3" to 3½" bulb a 7" pot. Remove dead roots but every vestige of living root should be left on. Our best success in flowering Amaryllis and in growing them on to larger, better bulbs is in a soil mixture composed of clean, sharp sand one part by volume and a mixture of pure organic material two parts. The latter may be pure peat but it is better if about half peat and half well broken up or decayed leaf mould, woods earth or completely reduced compost. The final mixture should have enough sand to feel very gritty. Such a mixture drains quickly but retains enough moisture around the roots.

To this mixture we add a tablespoon of bone meal and a teaspoon of blood meal. This is enough fertilizer until after bulbs have flowered.

One curved piece of pot over pot hole is sufficient for good drainage. Cover this with a layer of wet sphagnum. Set bulb in soil and mulch top surface with a layer of wet sphagnum. The neck and about ½ of bulb should be above soil surface. This surface should be ½" below pot rim. In potting carefully spread out all living roots as they are a great advantage to bulbs. Such bulbs will start more quickly and may be given a warm temperature at once.

We water at once and again when growth has started. With mixture above advised, one is not likely to over water tho you should be a little careful at first, if the bulb had no living roots. For as long as they will grow, potted Amaryllis need frequent watering. They are not only heavy drinkers but gross feeders. If you give liquid manure or Spoonit every 3 or 4 weeks, it will be about right. It is also good to vary the diet.

Amaryllis like the sun. If the foliage fades the sun may be too strong or you may not be watering enough. In mid summer in our greenhouses we usually have to apply a little shading to the glass, partly on account of temperatures which may go to over 100° even in our air conditioned houses. Whitewash shading can be easily washed off when cooler weather arrives.

When blooming if you will pollinate the flowers you can raise seed equal in value to the cost of the bulbs. When the 3-parted stigma opens the ripe powdery pollen may be applied. When seed pod splits the pods may be gathered, dried for a few days and seed planted in soil similar to that used in potting bulbs. Plant ½" deep and finish off with a thin layer of wet sphagnum. Or they can be grown in pure sphagnum, well broken up by rubbing or pounding.

Much advice is given on culture of potted Amaryllis. Most of it is likely to lead

to success. But don't allow any one to persuade you to use small pots. We use 7" pots for larger bulbs and how they grow! We keep the bulbs growing as long as tops stay green and continue watering and feeding. Others advise to dry them off even as early as Oct. Nature does not do it that way in their natural habitat but frost does farther north if grown out doors.

We advise that you use our soil mixture and culture method for expensive Dutch hybrids.

There is no quantity discount on Amaryllis except as specified in the listing.

Amaryllis advena. Oxblood Lily. 5 to 8 ox-blood red flowers in an umbel, on a 10" slender scape, preceding foliage. Fall bloomer. **Culture.** Not suitable for pot culture, but so nearly hardy that in mild sections of north it will succeed where peaches or apricots may be grown. Plant bulbs 6" deep or more, and mulched, in a protected situation. Full sun exposure, heavy or medium loam soil is good but does well in lighter soils also. Order before September 15 if possible, or you may miss first year flowers. **Special prices:** Largest bulbs 60c. Blooming sizes 50c. Medium 30c. Small bulbs 15c, \$1.50 doz. Per 100, \$10.00 postpaid or \$9.00, f.o.b. express. Everyone should grow this easy Amaryllis, hardy, at least as far north as southern Kansas.

(I am not entirely convinced that this is a true Amaryllis. Besides general appearance and unique growth habits it appears to be sexually incompatible with other Amaryllis. It is worth growing in quantity and is almost hardy in north. It will stand deep planting and with a heavy mulch has survived winter in Mich.)

A. ambigua. Lily shaped, white flowers with pink markings, on tall straight stems. 5 to 7 flowers in an umbel. The exquisite spicy fragrance perfumes the entire garden. Plant 4" deep in garden in south, to Okla. \$2.50.

Hybrid Amaryllis. We offer Howard and Smith's, the best American Strain and our favorite varieties of the Royal Dutch and Ludwig strains from Holland.

Howard and Smith strain. These are grown from seed produced by moving selected field grown bulbs to greenhouses. There they are hand pollinated with each other and with a large stock of Dutch varieties. The resulting seedlings are field grown to flowering sizes. In the field, weak varieties perish. The surviving bulbs are thus far easier to grow outside in the south than imported, greenhouse grown bulbs.

Assorted Colors. We usually find that the better flowers come among the unclassified colors. Price. 2½" to 3" diam., 90c ea. 3/\$2.50. 6/\$4.75. 12/\$9.00. 3" or over, \$1.50 ea. 3/\$4.00. 12/\$15.00.

H. and S. White Background, white with markings of pink, to scarlet or red. 2½" to 3", \$1.10 ea. 3/\$3.10.

H. and S. Near White. These have lighter color markings than the White Background. A few seedlings of these are likely to be pure white. If pollinated by a pure White Dutch Variety, superior seedlings will result. 2½", \$2.00 ea. 3/\$5.50.

Royal Dutch Amaryllis, Leopoldi type, with short tube, wide open, large, flat flowers. All are pure self colors. Most of the following have been rated at the Valleevue Test Garden, at Cleveland, O. The highest rating is A.A. Known ratings are given below. They are all top size bulbs, 3¼" diam. or over.

Bordeaux. A. 10" flowers of pure bordeaux-red. \$5.25.

Lucifer. The darkest red of fine contour and large size. \$5.50.

Moreno. A.A. 8" fls. Light wine red, suffused rose in throat. \$5.75.

Queens Page. A.A. Only 8" fls. are claimed but ours were even larger. Usually the opposite is true. Salmon. Perfect contour. \$5.75.

Red Master. A.A. 11" to 12" fls. are claimed. Ours did not quite reach that size but were fine. Dark bordeaux-red. \$6.00.

Sweet Seventeen. B. 9" fls. Frosty salmon-rose on white giving a flesh-pink effect. \$5.25.

Violetta. Not a violet tint but a very lovely red close to tyrian-rose. \$5.50

Complete Collection of all 7 var. Royal Dutch Amaryllis, listed for \$39.00, price \$35.00.

All of the above as well as all Ludwig Amaryllis are vegetatively reproduced, by

divisions of the bulbs and are not seedlings. Hence all the bulbs of the same name are exactly alike.

Important. We usually pack Dutch Amaryllis, both Royal Dutch and Ludwig in a liberal quantity of peat. To this are added a tablespoonful of bone meal and a teaspoonful of blood meal. To this add the leaf mould and sharp sand as advised. This is a good added value and it also insures better protection and better bulbs in winter shipments.

Ludwig Amaryllis. No collection of fine Amaryllis can be complete without several of the Ludwig Dutch strain. We tested several the past season and found no disappointments. Like the Royal Dutch or Warmenhoven strain they are pure self colors unless described otherwise, Leopoldi type. All are top size, $3\frac{1}{4}$ " or over.

American Express. A.A. $8\frac{1}{2}$ " fls., light orient red. Throat darker, with violet tone. \$7.50.

Doris Lillian. A. $7\frac{1}{2}$ " carmine rose fls., that are most lovely. \$9.00.

Love's Desire. Ludwigs say this new fall 1954 introduction is their best pink. Their description: Coral pink. 9" flowers. A kodachrome shows some white in throat. We must cut profit to sell for \$9.00.

Margaret Truman. A.A. $7\frac{1}{2}$ " to 8" porcelain rose fls. Named in honor of a real American Girl. \$8.00.

Roselinde. $6\frac{1}{2}$ "—7", but most lovely flowers of soft carmine rose. A fine pink. \$6.00.

Snow Queen. $7\frac{1}{2}$ " pure white flowers with minutely ruffled edges. They open an immaculate white. \$6.00.

White Giant. 8" fls., pure white and perfect in contour. This and Snow Queen are best whites I've seen. \$7.50.

Wyndham Hayward. A.A. 9" fls. of dark orient red. Fine contour. This variety is the nearest to perfection in all qualities of a red Amaryllis that I've seen and is fittingly named in honor of Wyndham Hayward. \$9.00.

Complete Collection of the 8 var. Ludwig Amaryllis listed for \$62, price \$58.

Complete Collection of Royal Dutch and Ludwig Amaryllis. 15 var. of the world's finest, listed separately for \$101.00. Collection price, \$87.75. This makes the average cost under \$5.85 each.

Any 3 Amaryllis of the two strains for 5% discount from the single rate.

Hardy Hybrids. These are not hardy outdoors in the colder states but as far north as North Carolina, Washington, D.C., and Oklahoma these have proven winter hardy if covered by 4" or 5" of soil and given a good winter mulch of straw.

This is an extremely vigorous, rapid growing and multiplying strain and equally prolific with flowers. There are always a few flowers in the field in the fall. They might give winter flowers in pots. Most of them are similar in color, orange scarlet with white throat and green keel. An ideal strain for outside planting and landscape effects. Their bright vivid color "hits you in the eye." Altho not an exhibition type, many will like them in pots, where they are easier to grow than the more aristocratic hybrids, and their bright cheerful colors will be most welcome. Price 75c each. \$7.50/doz. \$50.00/100, prepaid.

Amaryllis Seed. We have only enough seed this year to fill orders already received. Any way it costs less to buy the bulbs and raise your own seed. See **Amaryllis Culture In Pots** for method of pollinating flowers and growing the seed.

Brunsvigia rosea. Familiar in California and the south as Amaryllis belladonna, Naked Lady Lily, etc. It is hardy where minimum winter temperatures are 10° above zero. It will be safe to plant it on the east coast to N. Car. and to Washington, D.C.; thruout the south where winters are mild; on the Pacific Coast to Vancouver. They do not always succeed in pots. We have had reports of good growth but no flowers in Fla., Miss., and La. This So. African does well where there is no heavy rainfall from May 1 to Aug. 1 as here or in its habitat. The flowers are an exquisite pink with a fine fragrance. Aug. and Sept. visitors to So. Calif. take back home the memory of these and want them.

Brunsvigia rosea major. Earliest to flower, late July to Sept. 15. 35c ea. \$3.50/doz.

Per 100, \$17.50, by express. Smaller bulbs at 15c, \$1.25/doz. \$12.50/100, postpaid.

B. rosea minor make smaller bulbs and flowers. Bloom later. Rare, beautiful. 40c. \$4.00/doz. Assorted sizes, \$17.50/100, f.o.b. express.

B. rosea, Covina hybds., from a Covina garden. Fine assortment of varieties. 35c and 50c. Mixed sizes, \$12.50/100, by express, collect.

B. multiflora, var. Hathor. Pure white, beautiful and striking. Every Calif. garden (or wherever they can be grown) should have them. We are selling this year and paying postage for regular wholesale price, \$2.00 ea. \$20.00/doz.

Land is so valuable, (our 6A. is really made up of city lots) that we must reduce our area. Hence our prices on Brunsvigias and other bulbs.

Clivias have evergreen, strap-like foliage somewhat resembling that of Amaryllis. The flowers are produced in umbels of 10 to 25, in rich and exquisite tones of orange, in March and April. When not in flower the deep rich green foliage and later the red fruits are most ornamental.

Culture. They are usually grown in pots, even in the south, as more perfect foliage is thus possible, and when in flower one wants them in the house. We grow them in a lath house, lath spaced $\frac{1}{2}$ " apart, and in garden under Avocado (evergreen) trees, directly in the soil as they are often grown in Calif. When grown thus they will make very large clumps. They must have shade with only a few flecks of sunshine, but plenty of light and air.

Clivias must never be dried off or allowed to lose their foliage. Keep them well watered after flowering, all summer and fall. Liquid fertilizer occasionally helps. When growth ceases in late fall rest them by giving them less water. But keep moist enough to prevent wilting of foliage. At this time they should have a cool room with temperatures from above 32° to not much over 50°. Pots should be 8" for a small plant and up to 12" for larger. As they grow and increase, do not divide but shift to larger pots. Drainage must be perfect. Potting soil is described under "General Culture Directions." pH 7 is about right. One cannot guarantee a Clivia to flower the first year after moving tho they usually do.

The foliage of our Clivias, grown outside in the ground, will not be as perfect as that of pot grown plants. But when potted, they replace the old foliage in a few months and become specimen plants.

Clivia miniata. Wide open soft yellow orange fls. \$1.00, \$2.00 and \$2.75.

C. Miniata hybrids. Similar to the species "miniata" in foliage, hardiness, wide open flowers, etc., but there is some variation in color and form of flower. Most of them are in light orange tones. A few are dark and a few have a white throat. Do not express your color preference for any clivia hybrids as we cannot tell the color from the plant.

Special Prices. We are closing out a planting in a lath house. Small plants, \$1.00. Med., \$1.50. Small blooming size, some of which will flower next Mar., others may not until 1956, \$2.00.

C. cyrtanthiflora. Very rare hybrid between C. miniata and C. nobilis. Large umbels of rich orange, tubular, pendant flowers. Large clumps show flowers in almost every month. Plants become large, multiply very rapidly if watered frequently and require deeper shade. Price, blooming size plant, \$15.00.

Crinum Cecil Houdyshel has proven to be hardy as far north as Brooklyn on east coast; to Kansas City in interior; everywhere on west coast if near the ocean. It will survive zero if planted deep and mulched. Here, large bulbs, in clump, flower thruout mild weather, usually for 9 or 10 months of the year. The lily-shaped flowers are rose pink.

For the north, plant only our very large jumbo bulbs at \$6.00. For southern gardens it is safe to plant smaller bulbs in the fall. Flowering sizes for \$2.00 and \$3.00. If we fill your order, we guarantee it to be hardy for your location. We also guarantee that you will like it. But **don't** call it who-dee-shell or Hardyshel but as if spelled Howdy-shel. Other Crinums are listed in our Spring Catalogs. They can be planted any time of year in the south.

C. latifolium. This species is usually known in horticulture as *C. yemense*. The pure white flowers are very large and attractive and fittingly adorn an unusually attractive plant in June to July. We found a few in an old Pomona garden and have others from Holland. Large bulbs, \$5.00. Blooming size, \$4.00.

Daffodils belong to the Genus *Narcissus* of the Amaryllidaceae. **Trumpet Daffodils** are too well known and popular to need description. **Culture:** They are easy in most of the U. S. except parts of Fla. They do not succeed well in the tropics. They do well in a sandy loam or in heavy soil. It may be enriched by leaf mould but no manure. Slight shade seems favorable but full sun exposure is not bad. The most favorable planting depth is about 6" for large bulbs and small bulbs not so deep. They may be planted in Oct. to Dec. We are obliged to reduce our acreage and offer you a bargain in the following more desirable varieties. These are mostly small but blooming size bulbs.

Fortune. Giant, *Incomparabilis*. Yellow with frilled orange cup. Early. One of best. 20c. \$1.50/doz.

John Evelyn. White. Yellow cup tinted apricot. Large, outstanding. 15c. \$1.25/doz.

Assorted var. These are new varieties except a few King Alfred. They are mostly blooming size. 75c/doz. We can label them for \$1.00 doz. one or two var. to the dozen, our selection.

Narcissus, Paper White, Hardy only in south. Assorted sizes for out-door planting, 75c/doz.

Eucharis amazonica. We have been unable to get good bulbs. Please do not inquire.

Habranthus bloom several times a year and at most any time. Culture like Amaryllis. After good growth, if allowed to get rather dry for a period they will usually flower after a good watering. Umbels have but one flower. **H. brachyandrus**, lavender purple fls. 75c. **H. robustus**, pink lavender, 40c. **H. andersoni texana**, coppery yellow fls. in July-Aug. 40c, available only to Sept. 15. Late planted bulbs flower second year.

Haemanthus. The Blood Lilies of South Africa. So rare that few have seen them.

Culture. Hardy only in almost frost free climate like So. Calif. or Fla., if temperatures do not go below 24° at night. They do well in pots anywhere. The soil should be very sandy and contain a good proportion of leaf mould and peat as they are shade plants and like mildly acid soils. They do well as house plants in pots.

The following should be planted with tip of bulb even with soil surface.

Haemanthus carneus. A very small species with two small, prostrate, almost round leaves. The umbel of flesh pink flowers come in July to August. You will not get to see the flowers this year. \$2.00 ea., for 4" or 5" pot.

H. coccineus. True Blood Lily, altho all *Haemanthus* are known as Blood Lilies. The umbel of scarlet or blood red flowers (some call them pink) comes in late Aug. to Sept. Unless you order promptly they will be thru flowering. The scape is part of the floral display as it is covered by red spots on a light background. Following flowers are red fruits containing large seed. Save and plant the seed. Use the plants for gifts. Blooming sizes, \$2.00 and \$3.00. Large, often gives two scapes, \$4.00.

H. multiflorus and **H. Katherinae** will be listed in our Jan. catalog. They will be priced at \$5.00 and \$7.50 ea. They can be ordered now if you wish as we are unlikely to have over 50 bulbs of each.

Growing Haemanthus seed. When in flower they can be pollinated by rubbing palm of the hand over the umbel. Do this daily until all flowers have opened. If properly done many seed result. We plant seed in 8" or 10" clay pans, half filled with wet peat or sphagnum. Any organic compost will do and sand can be added to improve drainage. Remove pulp from seed and press down slightly, into surface of wet compost but do not cover seed. Place a pane of glass over the top and thus little watering is necessary. Keep shaded and warm. If radicles do not penetrate the soil, help them.

Hemerocallis. Daylily. The flowers range in color from dark bronzy red, thru pastel tones of pink to orange and yellow. They are borne on a branching scape well above the foliage.

The Greek name, meaning "beautiful for a day," refers to an individual flower. But

these are so freely produced thru a long period that "beautiful every day" would be more apt, as a collection of several sorts shows masses of flowers throughout the spring, summer and fall and here we often have some winter flowers. The modern sobriquet of "The Perennial Supreme" is well deserved.

Culture. While their beauty is their greatest recommendation, their easy culture and hardiness add to their desirability. I have known abandoned plants here, where we have arid, hot summers, to persist for years. They grow well in full sun. Slight shade is better. If given constant moisture about their roots, preserving this and coolness of the earth with a good mulch, the plants are ideally situated and respond with generosity. They are hardy, even in severe winters in the north. They are fibrous rooted, not bulbs, and must be planted at once when received. Altho they can be moved any time, it is better to ship from late fall to early spring.

They are an almost perfect border or landscape plant, never have to be dug and replanted. All that you must do for them is keep the weeds down and water. Those marked E. are evergreen here.

Hemerocallis Araby. 30". E. A lovely pastel color, with the effect of bronze on gold dust. Blooms early. 75c.

H. Calypso. Large, fragrant lemon yellow flowers. Opens in evening. 42". June-August. 30c ea.

H. Cecil Houdyshel. E. A Dr. Traub origination. A deep crimson with an old copper shade that makes it outstanding in our garden. Slight shade gives better color to flowers. 3 ft. June-July. \$1.00.

H. Chengtu. E. Brilliant coppery orange-red with carmine mid-zone. 36". July-Sept. 50c.

H. Cinnabar. E. Cinnamon sprinkled with orange, gold-glistening. 30". July-Aug. 50c.

H. Crown Prince. E. Color like Mikado. 30". June-Aug. 25c ea. Per doz. \$2.25.

H. Dauntless. E. Cadmium yellow. Fulvous red blended in mid-zones. Pastel effect. 30". June-Aug. 75c.

H. E. A. Bowles. 48". Large ruffled flowers of deep red-orange blended with gold. Early. 50c.

H. Evangeline. 40". Large, rosy flowers with purple eye zone. Early. 75c.

H. Florham. E. Still popular old hybrid. Large, golden yellow. May-July. 50c.

H. Florida. Pastel shades. Light chrome yellow with rose blush. Darker mid-zone. July-Aug. \$1.50.

H. Iris Perry. E. 36". July-Sept. Orange-bronze. 50c.

H. Kwanso. The Double Orange Daylily. 25c ea. 3 for 50c.

H. Linda. E. Petals, ruffled golden yellow, flecked with cinnamon, and a rose zone. Sepals, pure yellow. Very lovely. June-July. 50c.

H. Mandarin. E. 48". Lemon yellow. June-July. 50c.

H. Margaret Perry. E. Brilliant orange-scarlet. 4 ft. July-Aug. 35c.

H. Mikado. E. Orange with mahogany-red zone. A favorite. 3 ft. May-July. 35c.

H. Modesty. 36". Large, pale creamy yellow. Our nearest white. 50c.

H. Nubiana. E. Dark chocolate-red with yellow stripe in petals. One of the darkest varieties. 2 ft. 50c.

H. Patricia. 30". Pale yellow, large fragrant flowers. July-Aug. 50c.

H. Radiant. 42". Rich orange, June-July. 50c.

H. Rajah. 40". Deep English red, veined darker. Garnet red eye-zone. July-Aug. 50c.

H. Rosita. E. 36". Near Carmine, tinted copper. Part shade best. \$1.00.

H. Royal. E. 40". Beautiful golden yellow. Fine texture. July. 75c.

H. Royal Ruby. All agree, it is the finest red, to date. 40". July-Aug. \$2.50.

H. Serenade. 48". Rose on apricot cream. Faint dark overcast. June-July. 75c.

H. Sibyl. E. Dark red-purple petals, lighter sepals. \$2.00.

H. Soudan. 36". Lemon yellow. Broad, wavy petals and sepals. June-July. 50c.

H. Vesta. 30". Deep orange with glistening gold sheen. May-July. 50c.

H. Vulcan. E. 30". Darkest maroon red. July-Aug. 50c.

H. Wau Bun. Large apricot, sprinkled fulvous-red. The twisted and curved petals add gracefulness to its beauty. 75c.

Complete Collection. The entire list of 32 varieties are priced singly for \$22.75. They will be labelled with permanent aluminum garden labels, an added value, for \$21.00 postpaid. If by express, f.o.b., we will send larger divisions.

Hymenocallis Harrisiana. True Spider Lily. The large snow-white flowers have very long, narrow petals which with the exerted stamens give them a spidery appearance and a delicate charm. The contrasting very dark green foliage adds to the beauty of the plant. The species is rare in cultivation tho it propagates freely by seed and bulb offsets. Plant in garden in early spring or pot in January. Can be shifted to garden after flowering. This is one of the few deciduous Hymenocallis. **Culture** like Ismene. Bulbs must be dug and stored over winter like Gladiolus and Ismenes in the north. Price. \$2.00.

Lycoris. Oriental Spider Lilies are natives of Japan and China. The entrancing beauty of their flowers makes them the most popular of garden bulbs in the south and very desirable pot bulbs in the colder sections. The most tender is *L. aurea*. It is hardy only in the deep south. All the others are hardy up to Va., Ky., Okla. etc. They prefer sandy fertile soil with peat or leaf mould added, plentiful watering from mid July on *L. radiata*, one of the most beautiful is hardy in So. Kansas.

Lycoris albiflora. Large white fls. with color markings. Free bloomer, rapid multiplier and almost hardy. \$1.00. 3/\$2.75.

L. aurea. Golden Spider Lily. One of the most beautiful of all bulbs. \$1.50.

L. incarnata. Incarnate Spider Lily. Flesh pink. Almost hardy. Rapid multiplier. Very free blooming. 50c and \$1.00.

L. radiata. Red Spider Lily. Hardest of those listed here. One of the south's most outstanding garden bulbs. Deep coral red. 50c. 3/\$1.25.

Nerine. This genus includes some of the most beautiful of flowering bulbs. They bloom in succession from about Aug. to Jan. Hardy only where temperatures seldom go lower than 26°, but they are fine pot bulbs. **Culture.** Pot or plant in acid, sandy soil. Add peat or leaf mould. Pot at once with bulb covered and a little deeper in garden, in full sun. When foliage yellows, withhold water. Keep as near dry as possible when dormant.

There is only one reason why you do not all buy Nerines. You do not know their beauty and ease of culture.

Nerine Bowdenii. 10 or more fine pink flowers in an umbel 9" wide on a 15" scape. One of the finest Nerines and very easy. 50c and 75c ea.

N. Bowdenii, var. Pink Beauty. Has larger, finer flowers and flowers much later, usually in late Dec. or early Jan. Multiplies rapidly yet we can seldom have enough stock to list. \$4.00 ea.

N. Bowdenii, var. Magnifice, very fine improved Bowdenii, similar to Pink Beauty but flowers earlier. Extra special price, \$1.00 ea.

N. filifolia. Very small species with pretty pink flowers, in umbels and terete, evergreen leaves. 50c.

N. fothergilli hybrids. Variable shades of red and pink. Some are Bowdenii crosses and similar in color. \$2.00.

N. rosea-crispa. Hybrid of Filifolia but larger in all parts. Can be kept evergreen or dried off in summer. 50c.

Sprekelia formosissima superba. Orchid amaryllis. Deep crimson flowers in orchid-like form. Much larger than common type, better color, more flowers. Evergreen. Fine in pots. Culture like Amaryllis. 75c.

S. formosissima, type variety. Similar color but slightly variable. 75c ea.

Tulbaghia violacea. Small cousin to Agapanthus. Mauve flowers produced thruout the year, a true ever-bloomer. Foliage has garlic odor if bruised. An acquisition for pot culture. 25c ea. \$2.00 per doz.

T. fragrans. This species has a large, true bulb, with glaucous green foliage, 18" long and 1" wide. It has no allium odor. The plant is a profuse winter bloomer in a cool room with a few flowers in summer. It has larger fragrant flowers than violaceae, in the same color. Evergreen. Special price \$1.00.

Zephyranthes. Fairy lilies. The smallest Amaryllid, 6"-12" tall. Fine in beds or borders. Hardy in middle south. In north dig and store. They may be grown in pots. Give acid soil, sandy loam with leaf mould or peat. Full sun or slight shade.

Zephyranthes candida. Pure white, evergreen. The masses of white flowers in late summer make them outstanding in a bed or edging for border. Half hardy and easy in pots. 2 for 25c. \$1.00 per doz. Per 100, \$5.00.

Z. grandiflora. The largest Zephyranthes. It is very easy to grow. In the south, its habit of flowering every time it rains in summer gives it the name of Pink Rain Lily. Small bulbs, 2 for 30c. 12 for \$1.25.

Z. rosea. Small, but very lovely deep pink flowers. They do not do well in alkaline soils, add much peat. Fine in pots, about 8 or 10 in a 5" pot. 15c ea. 10 for \$1.25.

BULBS AND PLANTS AS PRESENTS

When you wish to select a present, why compete with shopping crowds until you are so tired that you finally select something doubtfully satisfactory. Impatient, tired salesmen or those who exert pressure do not help us to make a wise choice. Many of your friends would prefer a bulb or a plant anyway. Garden books, African Violets, Orchids, Amaryllis, Oxalis—all make nice presents. Take it easy. Sit down in a comfortable chair and select your presents from our catalog. Items to value of \$1.00 or more can be sent postpaid to your friend. Send your own card to enclose or have all sent to you for distribution.

IRIS FAMILY — Iridaceae

The Iris is the type genus of this family, which includes Iris, Gladiolus, Watsonias, Freesias, Sparaxis, Tritonias, Babianas, etc.

Tall Bearded Iris. A garden is not complete without a good collection of Bearded Iris. These can be planted until late into the fall, but the earlier you plant the more flowers you will get next spring.

Our "Iris 400, Price List," lists nearly 250 of the newest and best. The culture information is valuable as it tells you how to grow them and how to get a profusion of flowers every year. In order to make this available to everyone, whether they wish to buy or merely want the culture information, we charge a dime for it.

This is a folded sheet 9"x18", printed on both sides, no illustrations.

Special Offer of Bearded Iris. We have a surplus of several excellent varieties from this list and offer 100 rhizomes in 20 to 30 varieties assorted, unlabelled, f.o.b. express for \$10.00. From the Price List we will send \$6.50 value for \$5.00, postpaid and \$13.50 value for \$10.00 in place of discounts offered in price list, but not on collections.

I. unguicularis. Hardy only as far north as Washington, D.C. Bluish lilac fls. in winter. Needs partial shade. Water frequently when first planted. 50c.

I. Douglasiana, var. Watsoniana. Blue. Calif. native. Hardy in north. 75c.

I. spuria aurea. Tall yellow. Hardy. 75c. **I. spuria ochroleuca,** similar, fls. white with yellow falls. 50c.

GLADIOLUS

How to Grow Gladiolus. Glads planted Nov. 15 to Mar. 1 in Southern California and thruout the south (a little later in Northern California and early as possible in spring in the east) are reasonably sure to escape the attack of thrips.

Thrips are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm. To avoid the damage thrips do, four measures are effective. Plant early. Plant clean, treated bulbs. Keep them reasonably moist and well cultivated, with no weeds. Dust with Chlor-

dane. A hand duster and Chlordane can be bought from most local feed or seed stores. Chlordane tho toxic is safe to use but do not use on vegetables. Be careful not to breathe much of the dust. It also kills ants and other pests.

Dust Gladiolus 3 or 4 times before flowering. Begin when plants are 6" or 8" tall.

Many will prefer to spray instead of dusting. For a spray use "Thripocide" which we list under "Garden Supplies," 4 oz. for \$1.15 postpaid.

Plant large corms 4" to 5" deep. Half inch corms, 3" deep. Cormels, 2". Twice their diameter apart, rows 20" apart, in full sun exposure. Best soil is sandy loam but they do very well in heavy soils, especially if leaf mould and compost is added. Alkaline soils do not produce good Gladiolus. Correct them by addition of peat or leaf mould. Use only well decayed manure, if any. Spoonit is an excellent mildly acid fertilizer. Gladiolus may be planted in So. Calif. any time after Nov. 15 but it's better to wait until Jan. Those planted up to March 1, bloom usually at the same time. Water liberally after growth starts. When flowers are gone you must still irrigate and cultivate if you want good corms for next year. Keep them growing as long as they will grow. If we have enough warm sunny days we usually have flowers for Memorial Day.

Sizes. Size No. 1, 1½" up. No. 2, 1¼" to 1½". No. 3, 1" to 1¼". No. 4, ¾" to 1". No. 5, ½" to ¾". No. 6, all under ½". In the following list L. means large, No. 1 or 2; M. means medium, No. 3 or 4; S. or small are No. 5 or 6. Smallest sizes bloom and often bulblets. No. 2 and 3 are preferred for growing commercial cut flowers.

Prices are for one bulb. Multiply by 10 for price of one doz. 6 at doz. rate. 100 cost 70 times the cost of one or 7 times the cost of one dozen.

Our bulbs are grown in rich soil, on the heavy side. They are not always as nice looking as bulbs grown in the thinner sandy soil. They often perform better and we guarantee them to grow well.

Bridesmaid. Peaches and cream, in color. L. 7c. 70c doz.

Capeheart. Early salmon rose. L. 5c. 50c doz.

Debonaire. Tall early pink. L. 5c. 50c doz.

Elizabeth the Queen. Deeply ruffled, large lavender. The most beautiful Gladiolus. L. 8c.

Ethel Cave Cole. Favorite pink for cutting. Large, perfect fls. early an excellent grower. L. 5c. No. 1 and Jumbos, bloom earlier, 8c. 80c doz.

H. B. Pitt. Very fine, large orange pink. L. 8c.

June Bells. Very early, tall, large ruffled white. L. 8c.

Los Angeles. An old timer. Small grenadine flowers on a branching stem which makes it still a good one for garden display for profusion of flowers. L. 6c.

Mauve. This unusual color in flowers. L. 15c.

Miniatures are dainty, alluring and beautiful like a miniature carving, a rare cameo or fine lace. This fall we continue our offer of assorted, good named varieties for 10c ea. 95c/doz.

Pinocchio. Blending of pink, yellow, green, orange and red. Intensely ruffled and fluted. 4" florets, 7 open on long stem. L. 15c.

Red Charm. Best pure deep red for cutting. L. 6c.

Red Unknown. Fine early red. Name lost. L. 5c.

Snow Princess. Very fine early white. L. 6c.

Spic and Span. Ruffled pink. Strong grower. Bbts. flower. L. 8c.

Timor. Beautiful and unusual shade of medium red. L. 11c.

White Gold. Largest, tallest, earliest creamy white. A one spike bouquet. L. 7c.

Assorted Varieties. No. 1 to Jumbo, \$1.00/doz. \$7.50/100, postpaid, or \$6.00, Express Collect. Nos. 2 and 3, fine bloomers, 50c/doz. \$3.50/100. On 100 we must send mostly No. 3 to customers beyond our 4th postal zone.

Assorted bulblets. \$1.10 per pint, postpaid.

Gladiolus byzantinus, a species about the size of a baby gladiolus. Dark purple flowers. Hardy in north and does not need to be dug and stored over winter, anywhere. Small bulbs, 15c ea.

Neomarica (Marica), have long been favorite house plants in the north, but rather rare. They are both curious and beautiful. The blue and white flowers on the tip of a leaflike scape in Jan. to April are followed by small plants. They become heavy and the scape arches until young plants touch the soil and take root. Hence their common names, Walking Iris and Apostle Plant. **Culture:** Shade plants but they need early and late sun to induce flowering. Soil formula, sharp sand, leaf mould and peat or sphagnum. Evergreen. Keep well watered, constantly wet. Tolerant to temperature but 50° to 70° is good. Not killed by 28°, outside.

Neomarica gracilis. Smallest and earliest. Use 5" pot. 75c.

N. Northiana. Larger plant and flowers, slow propagator. Use 6" pot. \$1.75.

N. Hybrids. We crossed the above species and raised plants with flowers as large as Northiana, as profuse as gracilis and plants midway in size. They are rapid multipliers. \$1.75. All 4 kinds for \$4.00.

We have two other species under test but not for sale. A friend in Brazil is trying to locate a rare yellow species. We hope to introduce desirable species and hybrids later.

Moraea polystachia. 2 ft. stems produce a multitude of iris-like flowers, violet with mauve and yellow in throat. A bed is a stunning sight. They increase rapidly by selfsown seed. Hardy in south and middle south to Tenn. In the north grow in a 5" pot, sandy soil with leaf mould, full sun. 15c and 25c ea. \$1.00 and \$2.00 doz.

Culture Suggestions. Moraea to Tritonias. These are all most desirable items for Southern Gardens. All are hardy to about 24° to 26°. All need full sun exposure, prefer sandy or light soil and should be planted about 2" apart in garden or pots and 2" or 3" deep. All are winter bloomers and as house plants must have cool rooms. Height of plants is stated in inches, thus 20".

Babiana Hybrids. 8". Blue shades, nice plicated foliage. 3 for 15c. 50c/doz.

Ixia Hybrids. 12". Fls. white when open. They close at night or on dark days, when they are equally pretty as outside is like a red striped candy kiss. L. 4 for 25c. Small bulbs that will flower outside but doubtful for pots 35c/doz.

Sparaxis. Richly colored fls., on plants about the size of Freesias. Mostly red shades. No perfume. Easier to flower in pots than Freesias and hardier outside in south. Blooming size, 6 for 25c, 40c/doz. Large, 3 for 15c, 50c doz.

Tritonia hyalina. 10" Flame Freesia. Deep pink or red, very attractive in pots or garden. 10c. \$1.00 doz. Small, for outside. 50c/doz.

LILY FAMILY — Liliaceae

Many call all bulbs, lilies, an error. Included in the Liliaceae are Hyacinths, Tulips, Muscari, Ornithogalum, Veltheimia, Scillas, etc. For Callas see Araceae.

Scilla peruviana is an ideal bulb for pots or garden. It is hardy to N. Car. and in Long Island. As a house plant it does well in cool but sunny rooms. Give full sun outdoors. Winter bloomer. The short foliage is nice and flower head is oval and on a short stem. Blue fls. Extra large bulbs, 90c. L., 60c and 75c. Blooming size, 40c.

Ornithogalum arabicum. A round, glossy black ovary in the center of a pure white flower makes a striking contrast at Easter time. Hardy only in south, but in the north they are easy in pots and bloom for Easter if planted early and grown in a cool room in good sun exposure. Low priced, easy to grow and desirable, early white flowers are a winning combination. L., 25c. M., 15c. One to 5" or 6" pot.

Veltheimia viridifolia. This is one of the most beautiful plants one can grow in a pot. The glossy vivid green leaves are wavy margined and form a perfect rosette much like a bird's nest fern. From the center arises a scape with tubular drooping flowers closely spaced. The color is a deep rosy or purplish pink of an ineffable tone not found in any other flower. It begins to bloom, if planted early, in So. Calif. gardens or other equally mild climates or in pots in the north by Dec. 15 and continues for nearly 3 months as larger bulbs send up 2 to several spikes. **Culture** is very easy. Use a sandy loam soil to which is added fine screened peat or leaf mould about one-fourth. Some charcoal is good. Do best in part shade. Drainage must be good as they need frequent watering

when in flower—but never soggy. Read potting directions again under “General Culture.” Order before Oct. 1, if possible as after that date *Veltheimia* start to grow in storage. We can ship later but they are hard to pack after foliage starts. We have no extra large bulbs this year. Blooming size 75c and \$1.25 ea.

OXALIS FAMILY — Oxalidaceae

There are three types, Winter growing, Summer growing and Evergreen. The following are winter growing and blooming or evergreen. Oxalis are the brightest and most vivid of winter flowers for a sunny window or in outside beds in the deep south, where temperatures do not go much below about 26°. They give a profusion of bloom over several months time. They need a cool room.

Culture. Plant about 2" deep, 3" apart. Large bulbs may be farther apart and a little deeper. In pots, the smaller may go 6 in a 5" pot. They need full sun exposure and do best in a very sandy soil, rich or poor. Flowers close at night and on dark days. Tuberous rooted species start very slowly. Keep them moist and be patient.

Oxalis Bowiei. A large plant with bright rose red flowers. 3 bulbs to a 5" pot 5c ea. 50c doz. \$3.75 per 100. Largest size 10c ea.

O. brasiliensis. Bright magenta fls. Starts growing in winter. If constantly watered it may be evergreen, or almost. 25c ea.

O. cernua. Bermuda Buttercup. Deep golden yellow flowers. Very profuse. 5c ea. 50c doz. \$3.50 per 100. Extra jumbo bulbs 10c, 3 for 25c, 85c doz.

O. cernua, flore pleno, Double Bermuda Buttercup. Smaller plant than the above. The flowers are very double. 25c.

O. crassipes. Flowers bright rose. Evergreen and everblooming. Increases by tubers and can be moved at any time. Plant at once. Large tubers 15c ea. \$1.00/doz.

O. crassipes alba. A pure white form. Very pretty. 25c ea. 6/\$1.00.

O. Grand Duchess. Low growing plants, but give a profusion of very large flowers in three colors. The **Pink, Lavender and White**, 5c ea., 50c doz., \$3.50 per 100. Largest size 10c each. Botanically, this is probably *O. variabilis*.

O. Regnalli. Large, truncate leaves, reddish on under side. Trifoliate. Evergreen and everblooming. Large white fls. Tuberous rooted. 35c ea. 3 for \$1.00. This is probably the same as *O. rubra*, var. *alba*.

Oxalis Special. The bulbs offered in this lot are assorted in size and color. They will all flower well. Some are accidentally mixed, others are surplus. Price, 30 for \$1.00.

THE CALLA LILY FAMILY — Araceae

This family contains the so-called Calla Lilies or *Zantedeschia*, Black Callas and other Aroids.

Culture. All *Zantedeschias*, *Arum palaestinum* and other aroids listed here are desirable for pot culture. *A. palaestinum* will start about Sept. or later. Do not put this bulb into moist soil before that or it will rot. *Zantedeschias*—pink, and yellow—may be potted by about Dec. 15. Don't rush them, as too much water before they start to grow may rot them. It is really better to start in early spring, here in late February. All do well in the garden in a moist semi-shaded cool place. They are not hardy in cold climates; dig in fall. The White Calla usually blooms in California in the garden in late winter. They may be planted in early fall in pots or garden. All do best in mildly acid soils, on sandy side. For acidity add peat. Most Aroids are shade plants.

It is an error to keep large White Callas growing continuously. If rested thru summer you will be rewarded with flowers. Callas as pot plants need some sun, enough to prevent spindly growth, plenty of light and like all plants, good ventilation. They need abundant water but good drainage.

Zantedeschia aethiopica. Well known **White Calla**. They can be potted anytime between Sept. 1 and Jan. 1. Even later if available. Water once when potted to settle soil. Then keep soil barely moist until growth is well started. When growing well they need plenty of water and perfect drainage, give about half shade. They are hardy outdoors

down to 15° but tops may be cut down by frost at about 20°. Blooming size, 25c. Large 50c. Small offsets for foliage only, 15c.

Z. albo-maculata, Spotted leaf calla. White flowers and ornamental foliage. As for the other callas they need enough sun to prevent spindly growth. We have small to very large, 40c, 40c and 75c ea.

Z. rehmanni elegans. Light pink Calla. Easier to grow and flower than the dark pink. A few are very light, almost white when forced but darker in the garden, and always beautiful. Large bulbs, 40c. 3 for \$1.15. Delivery Nov. on all Zantedeschias.

Z. elliotiana. Deep Golden Yellow Calla. Like all the callas, they need some sun. If they do not have it they grow too tall and weak and may fail to flower. Half sun is usually right. 30c ea. 3 for 85c. Delivery Nov.

Arum palaestinum. Black Calla. Solomon's Lily. Foliage and flowers are shaped like Callas but flowers are black and odorless. Plant 4" deep in garden, not so deep in a pot. Begin to water about Sept. 1. Flowers in Feb. Large for 50c and \$1.00 ea.

Anthurium andraeanum. Until very recently these have been high in price. But now prices are reasonable. The cordate leaves make them useful as foliage plants alone but a mature plant will flower six times a year. Flowers are calla-like, but rather flat, in glossy red, pink, orange, coral, rose and rarely white. They are much used for cut flowers in arrangements and corsages. They are everblooming if given correct conditions at all times, but sometimes take a vacation when very hot, very cold or very dry.

Culture. Anthuriums and Spathiphyllums are tender tropical plants, suitable only for pot culture. **Soil formula.** They will grow in most any organic compost. We use and advise one part old osmundine (discarded from orchid pots, new will do); one part peat. Add enough Sponge Rok or coarse sand to make compost very gritty and to hasten quick drainage. See Potting Directions under General Culture. Add a thin layer of sphagnum on surface to prevent eroding the surface when watering. Set plant low in an oversized pot and as it grows, new roots are formed on compost surface which should be covered with more sphagnum. When compost surface reaches rim of pot, shift to larger pot, or build up with sphagnum. New roots must be kept covered.

Use Spoonit or liquid manure once a month, after plants are well established. The preferred minimum night temp. is 60° or over. 45° does little harm other than to stop growth and flowering. 70° to 80° is a good daytime temp. Air should be very humid. Spraying foliage daily increases air humidity. They should never become completely dry, thruout. Water about every two days.

Shipping. The best way is in pots, by express. But you pay the express and it costs us more to pack. Plants are set back a little by sending by mail, out of pot. But they recover and you save quite a lot on the total cost. Which compensates for the recovery period. If by mail you should add 35c for plants under 8" and 45c for larger sizes for "Special Delivery," also for Insurance fee if desired. They cannot be mailed in cold weather.

Anthurium andraeanum, Shaffer Hybrids are the best. Plants should begin to flower at 10" to 12" height. We have had 6" plants flower and very often 8"-10" flower. They grow and multiply so rapidly that we are forced to make sharp cuts in our former prices. They are really bargain prices. If you have a warm living room or a hobby greenhouse, by all means take advantage of these offers. The figure enclosed in parentheses thus (3") is size of pot advised for the plant. **Prices, Assorted Colors,** out of pots, postpaid or established in clay pots, by express, f.o.b. Plants under 4" tall (3" or 4"), \$1.50. 4"-6", (4"), \$2.00. 6"-8", (4"), \$2.50. 8"-10", (5"), \$3.00. 10"-12", \$3.50. The last should flower very soon. Plants over 12", that have flowered, or will flower very soon, (5"-6"), \$5.00.

Named Colors, plants that have flowered, our choice, 10" or over, \$5.50. Your choice of color except white, \$6.00. White, \$7.00.

A. crystallinum. A beautiful foliage plant that does not need flowers. Leaves are cordate-ovate to 10" wide and 14" long, deep velvety green, prominently veined white. Pale rose on underside. Blooming sizes \$2.50 and \$3.00. Smaller plants, \$1.50 and \$2.00.

Spathiphyllum Clevelandii. Close relative and formerly classed as an Anthurium.

Foliage is oblong and pointed. Flowers are pure white and long, very attractive. They are easy to grow as house plants, in 4" pots. Small plants, \$1.50 and \$2.00. Blooming sizes, often in bloom when sent, \$2.50 and \$3.00. Postpaid or by express, f.o.b.

FANCY LEAF GERANIUMS

Fancy Leaf Geraniums have been having a renaissance of popularity. The gorgeous colors in their foliage surpass belief, until seen.

Culture. The Fancy Leafs are pot plants. The plants we send out are ready for 4" pots. Use only unglazed clay pots—no plastics. Do not allow pots to stand in saucers of water. Give almost full sun for about one-half day or more, strong light for the balance. If shaded much, stem rot results. Do not keep plants in a soggy condition but water when soil surface appears slightly dry. The best soil is one that allows water to drain quickly yet retains enough for one or two days supply. Such a soil may be composed of good garden loam one part; peat, shredded or cut sphagnum, fibrous leaf mould, (or a combination) 3 parts; enough coarse sand or Sponge Rok to make the compost quite gritty. Be sure your final compost drains well. We mulch top of soil with sphagnum. Use no manure or fertilizer in potting soil except a level tablespoonful of bone meal can be used in a 4" pot. When well established, Spoonit is a good and sufficient fertilizer. We ship plants in waxed paper cups. Do not remove or disturb the sphagnum in which we root them. Use only 4" pots for Geraniums as house plants. Keep tips of branches pinched back to encourage a bushy growth.

Geraniums are not easy shippers. Usually some leaves are lost. They are guaranteed to recover if you follow our directions fully—but not guaranteed if you don't. We do not always ship at once unless weather is favorable.

If our prices seem higher, remember, we prepay postage; we make no packing charge; we guarantee that our plants arrive in living condition. We send out of 3" pots. You should send the fees for Insurance, Special Delivery and if wanted for Air Parcel Post. It is advisable to send by air on long distances. Express shipments are usually quite safe and Express Co. accepts responsibility.

Alpha. Dwarf. Deeply lobed, golden green leaves with narrow rust zone and large, dark, glowing scarlet flowers. \$1.00.

Crystal Palace Gem. Yellow green leaves with deeper green central blotch. Scarlet flowers. \$1.00.

Distinction. Small, round green leaves, toothed on edge, with a sharply outlined dark zone close to edge. Compact small plant. Often first choice of local customers. Cherry flowers. \$1.25.

Jubilee. Bronze yellow leaves with broad rust brown zone. Grows well outside. \$1.00.

Miss Burdett Coutts. Silvery green leaves bordered with ivory and a zone of brilliant red and brown. Easy to grow and one of the most brilliant in color. \$1.50.

Mrs. Cox. Green leaves edged yellow. The wide zone is brilliantly splashed scarlet, crimson and brown. Very rare. \$1.50.

Mrs. Pollock. Green leaves edged yellow. Wide zone splashed scarlet. Similar but less colorful than Mrs. Cox. \$1.00.

Skies of Italy. Sharply lobed green leaves with wide brown zone, splashed red. Older plants become very colorful. \$1.25.

THE GESNERIA FAMILY — Gesneriaceae

This family includes the following genera: Gloxinia, Saintpaulia, Episcia, Achimenes, Smithiantha, Corytholoma, Isoloma, Streptocarpus, Aeschynanthes, etc. Some of these are listed in our spring catalog. Next spring we will again list Achimenes. In spring '54 we did not list them because our tubers were small. They had been crowded out of our greenhouses and we did not get good tubers in the lath house because of a very early frost. So we built a new large greenhouse for Achimenes and Dutch Amaryllis. They are doing fine. Smithianthas and others will also be in Spring Catalog.

Gloxinias. Our main list cannot be offered until spring as American wholesale

growers do not distribute their stock until about Jan. 1. Many would like to plant much earlier. For those who want earlier plants and flowers, two courses are available. Plant seed at once. Under correct conditions, one may have flowers in 5 mo. from seed.

Or plant early matured tubers. We have a few tubers that can be shipped soon. They may be planted at once when received but one must not over water or expect immediate growth. Keep the pots only slightly moist until growth starts and increase moisture in proportion to the advance in growth.

Gloxinia Tubers. Named and labeled varieties, our selection only. Sizes as available. Both "Old Time Ten" and newer hybrids will be included as long as available. Price, 50c ea. \$5.00/doz. Assorted, unlabeled tubers, \$4.00/doz.

Gloxinia Culture. The soil may be one part by volume of sharp, coarse sand and 2 parts peat or peat and leaf mould. Add 1 tablespoon bone meal and 1 teaspoon blood meal for a 6" pot. Mix thoroly. Set tuber a little under soil surface and mulch with $\frac{1}{2}$ " wet sphagnum. Last of all water until a little runs thru at bottom. These are tropical plants. The best starting temperature is at least 80°. They will start, but a little more slowly at 70°, with 60° or over at night. Keep the pots moist and they can be in full sun until foliage appears, then slightly shaded. The plants need good light and more sun than most Gesneriaceae. Leggy plants result from insufficient light. Fertilize with Spoonit or liquid manure about every 3 or 4 weeks.

Gloxinia Seed, Houdyshels, saved from our named varieties, assorted. This contains the largest number of seed. **Antonelli hybrids,** from their best new varieties, assorted. 10 or more seed. **Beacon.** Rich dark red flowers. This and the following named varieties come true to name. **Crimson Glow.** Name describes color. Free blooming. **Rose Sensation.** Brilliant carmine rose. **Swiss Emblem.** Brilliant scarlet red, white margin. Your choice of packets 50c ea. The 6 packets for \$2.75. The number of seed in each packet is in proportion to their unit value and from 10 to 50. Tho tiny, every seed grows. Send stamped, addressed envelope for all seed packets.

Culture. Place fine grained vermiculite or terralite in the bottom of a plastic refrigerator dish $\frac{1}{4}$ " deep and moisten well. Plant seed very thinly over surface. Keep covered with lid until plants are ready to pick out. One must make sure that moisture does not escape and add water if it does. They may be picked out and transplanted into 2" pots after second pair of leaves develop. We also plant seed in 9" pans, half filled with peat and milled sphagnum. When planted cover pot with glass. We grow many rare seeds by either method, including African Violets. Gloxinias flower at about 5 months.

Streptocarpus are fibrous rooted evergreen and can only be moved as growing plants. The culture is much the same as for Gloxinias except as to temperature. They thrive in a cool house and are easily grown in a lath house in summer. The color range is similar. The flowers are smaller and freely produced. They are followed by long twisted seed pods, hence their name. \$1.25 ea.

Streptocarpus seed. Assorted colors from fine strains. Handle as advised for Gloxinia seed. \$1.00/pkt. and self addressed stamped envelope.

S. Wiesmoor Hybds. These are claimed to be entirely new and superior to any others. Fls. resemble orchids and are on wiry stems, useful for cut flowers. These are Dutch import and expensive. You therefore get fewer seed for \$1.00. (Stamped, addressed envelope.)

Episcias resemble African Violets in form and other ways, yet are entirely distinct. African violets flower profusely. Episcias are very showy foliage plants and flower but once a year. They are natives of the American tropics, not African. Their flowers are solitary or clustered, not in cymes as in African Violets. The resemblance is casual, not botanical. But their red flowers and general contour of the plants have resulted in promotion of *E. coccinea* as a Red Violet. They are very tender tropicals and should not be colder than 60°. At about 50° they are badly damaged or killed, hence cannot be shipped when likely to encounter temperatures under 50°. They make stolens or runners like a strawberry and new plants are made in a similar manner. We plant in baskets of sphagnum and hairpin the little plants on stolens to sides and bottom of basket. Or stolens may

be allowed to hang as jewelled pendants. Flowers are usually bright scarlet and foliage usually villous, or hairy and velvetlike. They may also be grown in pots, same soil as African Violets. Either way they require constant moisture. When you receive the plants do not remove or tear apart the mass of sphagnum which contains their delicate roots. Plant the entire mass.

Episcia chontalensis, a small variety with green leaves. Flowers lilac or white. **E. Coccinea**, so called in the trade but probably is *E. cupreata*. Brownish, hairy leaves, silvery veined, scarlet flowers. **E. cupreata**, var. **Silver Sheen**. A broad silver sheen in center with dark green border. Flowers scarlet. **E. Lilacina**, bronze leaves. **E. splendens**, large, bright green leaves, broad veins of silver green. Scarlet flowers. A very lovely variety. **E. Sport** is probably an unidentified species. Flowers close to yellow. **E. cupreata**, var. **viridifolia**, has unmarked green foliage. Price, \$1.00 ea. The 7 varieties for \$6.25.

Columnneas are epiphytic climbing vines. They may be grown in wire baskets of Sphagnum in which case they hang down as trailers. The large red flowers are gorgeous. **C. Gloriosa** is the most profuse bloomer. **C. Microphylla** and **C. Arguda**. Small rooted plants, \$2.25 postpaid. See "Supplies" for baskets and Sphagnum.

AFRICAN VIOLETS — Saintpaulias

The latter is the correct botanical name. They are the most popular of all house plants at the present time and they are likely to retain this eminent position in popular favor indefinitely, as they deserve it. Reference to their popularity as "The African Violet Craze," is unintelligent, because it fails to recognize the especial appeal of these little plants and their adaptability for house culture. It fails to recognize the health giving value, physically and mentally of a hobby and especially of gardening. Saintpaulias appeal to all classes, all ages and to both men and women. If this be a mania, Mrs. Houdyshel and I are glad to be victims. As long as human souls love dainty beauty, African Violets will be popular.

Another important quality that will keep them eternally interesting is their versatility. At first the plants were so small and the flowers so inconspicuously blue that they escaped discovery until only about 60 years ago. In the hands of breeders, beautiful foliage and larger sizes have been developed. Flower colors have been extended to include white, pink and a purple that is almost red. There are double flowers, sweet pea shaped flowers, variegated colors, flowers with a border like picotee tulips. Indeed, no one has sufficient imagination to guess at what the future holds.

Questions Answered. Many ask questions or consult us on the following. We can save many letters by answering here. African Violets are abbreviated, "A. V." No, we have no Yellow A. V. It is very unlikely that there will ever be one. No, you cannot cross a yellow wild violet with an A. V. The first belongs to Family Violaceae and the last to Family Gesneriaceae. A. V. are unlikely to cross even with *Episcia* of their own family. One of its closest relatives is *Streptocarpus*. No, there is no perfect spectrum red A. V. They are always purple toned.

Culture. African Violets under the hand of man have been vastly improved and diversified and many new colors and forms have been produced. New species have been discovered. They have also adapted themselves to somewhat different conditions from those found in nature.

The advised **range of temperatures** for winter is 60° at night and 70° daytime. They might do a little better at 10° higher but that is uncomfortable for people in winter clothing and summer brings about 10° increase, in our living rooms.

The plants do not like sudden changes nor great changes. A nearly even temperature, within a limit of 12° between high and low is better. They are bound to have a greater range sometimes and if not more than about 15°, they are unlikely to lose their flowers. Loss of flowers is the first evidence of something wrong. This may result from sudden changes, drafts, too high a temperature in summer and in winter it may result if temperature goes much under 60° for more than an hour or two. Or it may result from too low relative humidity. This should be 40 to 60%.

African Violets grown at a congenial temperature are usually killed if subjected to lower than 40°. Therefore it is impossible for us to send you plants by mail in winter, to a cold climate. In favorable weather we can usually send to warmer sections of the south. Express is safer. Nor do we ship on very hot days in summer. We plan to ship so that they do not arrive to you on a week end and thus remain in a carton a day or two longer.

Watering. Do not use cold water. The water should be near the room temperature and never over 10° lower or higher. Most of our watering is done by spraying with a hose. The plants need to have the foliage sprayed and it does not spot the foliage if no sun falls on the foliage before they dry off. The interval between waterings should be long enough to permit the top soil to become slightly dry. Do not use pots that have no hole at bottom for drainage. Use sub-irrigation infrequently. We prefer regular pot watering rather than use of wicks.

Good **ventilation** is needed by all plants but Saintpaulias do not like drafts. Slow movement of air currents are more conducive to their comfort.

Soil formulae. Plants have a considerable tolerance and do well in a wide variety of soils. They should be at least mildly acid in reaction and a type that will drain easily and quickly. Heavy clay soils, therefore, are not good.

We use about one half oak or redwood leaf mold and one half sandy loam or good loose garden loam. To this is added enough Sponge Rok or coarse sand to make the soil gritty and aid drainage. Fine screened peat is as good or better than leaf mold.

If you are unable to supply your own soil mixture, the best we know about is Black Magic or Georgia Peat African Violet mix. Both are listed under "Supplies" in this catalog.

Fertilizers. We use only Spoonit and recommend it to be applied once a month, on a day following watering. See our listing under Garden Supplies.

Sun exposure. Most of the advice one receives over-emphasizes shade. Lack of sufficient light intensity is one of the most frequent causes of non-blooming. All shade plants need a certain amount of modified sunlight to make them flower. In the winter, the sun is at a low declination. Its rays must pass thru several times the thickness of atmosphere penetrated at noon in the summer when the sun is directly above or at "high declination." Very little shading is needed on the greenhouse in winter. Treated thus, our plants bloom profusely all winter. Very likely, plants in a south window, anywhere in the north temperate zone, in winters, will be sufficiently shaded on the brightest days by a thin muslin curtain. It may not even be needed at all and on days of less than maximum intensity remove the shade.

But summer sun is much stronger. One must give more shade. It should not, however, be too heavy. The color of the foliage will tell you what they can endure. When healthy plants have light, yellowish foliage they probably receive too much sun. Medium green is about right. Very dark green foliage indicates insufficient light and lack of flowers corroborates it. For checking, select a plant having green foliage, under normal conditions, not a dark foliage plant like Holly or Pink Delight nor one like Frosty having ivory or white areas.

If your Saintpaulias do not flower altho they grow well and appear to be healthy, you need to check on all points we have mentioned. Light intensity and duration are important. In the far north we have customers near the Arctic Circle where there is full daylight only in summer. Here the only possibility of winter flowers is the use of artificial light. They express interest in fluorescent lighting. Mrs. Rector, in How To Grow African Violets (which you should have,—see our book list), says that an 80 watt fixture, 18" above the soil, has been found to give good growth and free flowering. Greenhouse growers who force lilies for Easter are able to advance the blooming date by the use of electric light. Any kind of light will do provided the plants receive 15 to 30 foot candles (as measured by a photographic light meter) for 12 hours duration, daily. This should be tried in the northern states where winter days are short and dull.

Humidity. The humidity of our houses is likely to be not much over 25%. One can

increase the humidity around the plants sufficiently by setting the plants in saucers or in a long tray that will hold several pots. A chick feeder with guards removed makes a good tray. These may be partly filled with small gravel. Set pots on top of gravel and pour in water until it does not quite touch pots.

Pests. Be sure to keep your plants free of insect pests. One of the most common on house plants is the **mealy bug**. Examine plants frequently for pests. Mealy bugs look like tiny specks of cotton. One way to remove and kill them is to use a bit of cotton on the end of a toothpick. Dip the cotton in alcohol and pick off the bugs. Do not touch foliage with the alcohol. Wonder Garden Spray, used as a spray is effective. A badly infested plant should be discarded or at least removed from the vicinity of all other house plants. All effective insecticides are poisonous. You must not breathe the fumes. You must avoid skin contact. See our listing.

Cyclamen mites are most destructive. The center of an infected plant takes on an abnormal appearance and changes to a different color, usually grey. It becomes rough in appearance and young foliage is misshaped. Mites spread to all the plants and effective measures must be at once applied. We have found the most effective remedy is to spray with Wonder Garden Spray, which is listed under "Supplies." Immediately remove infected plants into quarantine. Do not handle infected plants, then healthy plants.

Customers are invited to visit our nursery when in Los Angeles area. Drive east on Garvey, N. on Azusa, E. on Arrow Hwy. to Esther St., S. one block, or take La Verne bus. Get off at Firey and walk west one block to Esther. Then south one block.

Distant states, Hawaii, Alaska, Cuba, Europe, etc., should include enough for delivery by Air Parcel Post. We have shipped as far as Denmark, nearly 6,000 miles, this way and plants arrived in almost perfect condition. They did not quit blooming. We charge the customer the excess of Air Parcel Post above the cost to our 8th postal zone. Please state in your order that you will pay the difference promptly if your estimate is too low. But send your estimated amount with order.

We usually succeed in delivering plants in excellent to perfect condition. We guarantee our plants to arrive in a living condition. Calif. Customers, **don't forget to include Sales Tax**. It costs you 5c more if we have to send you a notice.

Azure Beauty. Beautiful double fls. white with lav. or blue markings. \$1.25.

Blue Belle. New medium blue, large full double. \$2.50.

Blue Lady. Large light blue flowers. Good bloomer. \$1.50.

Blue Ohio. Very large, dark blue fls., small, heavy, thick leaves. \$1.50.

Bridesmaid. New. Large double light blue and white variegated. \$2.50.

Bronze Fringette. Fls. spectrum violet. Lvs. round, crenated, very dark bronze green, red underneath. Very good bloomer. \$1.25.

Calif. Dark Plum. Plum red flowers. Very good. \$1.50.

Caracol. Med. green, girl leaves which often curve at the base into a snail-shell twist. Flowers blue-violet. \$1.50.

Carmen. One of the best reds. \$1.50.

Christmas Star. (Fischer's) Star-shaped light blue center on white fringed field. Sm. \$1.25.

Double Inspiration. New. Lavender double flowers. \$2.50.

Double White Lace. \$1.50. 75c for small plants.

Dream Girl. Variegated, white-bordered with blue. Lovely foliage. \$1.50. Sm. \$1.00.

Easter Bunny. Dwarf. Very small girl foliage, \$1.50.

Edna Fischer. Patented. Lovely plum shade double, white edge blending into colored area, foliage reddened below. \$2.50.

Evening Sunset. A light blue, with an overcast of pink that predominates in two petals, like sunset and blue sky. \$1.25.

Fantasy Girl. Ever-changing lavender, splashed, rayed and dotted deep purple. \$1.25.

Fantasy Supreme. Large flowers and foliage. Splashed, dotted deep purple. \$1.50.

Frisled Blue Delight. The petals are frilled. White edged with blue. \$1.25. Sm. 75c.

Frosty. Variegated foliage, like a mound of snow spilling from a green salver. \$2.00. Sm. \$1.00.

Geneva Beauty. New foliage similar to Mentor Boy, purple flower, white edge, does not fade. \$2.00.

Grotei. Trailing stems, nice for hanging. \$1.50.

Grotei Hybrids. These are very good bloomers. They should be allowed to branch. Use large pot. \$1.50.

Holly. (Keller). Lvs. dark copper green. Holly shaped, purple underneath. \$1.00.

Inamorata. Beautiful, large, white, double flowers with slight color. Free flowering. \$2.00. Our new introduction this year.

Iowa. New, improved Holly. Flowers blue. Foliage very dark. \$2.50.

Inspiration. Very large blue-lav. fls. supreme foliage. \$1.25 small.

Lavender Delight. Large double. Fls. light wisteria violet, deeper color in center. Leaves forest green, quilted. \$2.50. Our introduction.

Lavender & Lace. New. Bicolor orchid double, lighter shading than Royal Emperor, plain foliage. \$2.50.

Los Angeles. Flowers are very large, hortense violet. Leaves ovate, medium green and quilted. The fls. are large, freely produced and fully double. \$2.25 (Houdyshel).

Moonlite. Leaves deeply crenate. very pretty. Fls. light blue. \$1.50. Sm. \$1.00.

Moon Ripples. (Fischer) Patented. Dark blue double, edged white and frilled. \$2.00.

Narbonne. Long shiny girl leaf with large white spot. Fls. violet #3. \$1.00.

New Dawn. Heart shaped, rather pointed leaves, med. light green, Reddish orchid flowers. \$1.50.

Orbicularis. New species. Dwarf. Many small light blue flowers. \$2.00 .

Pacific Shadows. Dark shiny leaves. Growth flat. Flowers brilliant blue. \$1.50.

Painted Girl. Snowy white, glistening as if covered by diamond dust, bordered by orchid. Very popular. \$1.50. Small \$1.00.

Pansy Beauty. Rather small growing with many pansy like flowers. Sm. \$1.00.

Peach Blossom. New. Rose pink with girl foliage. \$2.50.

Pink Adorable. Flowers rosolane pink with much darker center. \$1.75. Sm. \$1.25.

Pink Attraction. Lovely large round fls. with rosy eye. \$1.25.

Pink Cheer. Deep pink flowers. \$1.50.

Pink Fantasy. \$1.25. Small 75c.

Pink Shocking. Very large deep pink fls. rather long in shape. \$1.50.

Pink Wonder. Patented. Most beautiful deep pink. Very large round fls. \$2.00.

Purple Lace. Fls. blackish violet and frilled. Foliage frilly with red underneath which shows thru. \$2.00. Sm. \$1.00.

Queens Cushion. New. Fullest double flower you ever saw. A deep purplish orchid shade. Plain green foliage. \$3.00.

Red Princess. An outstanding red. Crimson wine red. \$2.00. Sm. \$1.00.

Rose Rainbow. Dbl. rose and white variegated. \$1.50.

Ruffled Queen. Color, blue burgundy, with ruffled, frilled petals. \$2.00.

Silver Lining. (Fischer) Patented. Light blue double, edged white, keeps well in summer. \$2.25.

Silver Moon. Lovely new white. Blooms here all the time. \$2.25.

Snow Line. (Fischer) Patented. Red lavender double companion plant to Silver Lining. \$2.25. Sm. \$1.25.

Snow Prince. Excellent large white. \$1.50.

Silhouette. (Fischer.) Large flowering dark blue, deeply ruffled with a faint edge, almost a tint. \$2.00. Sm. \$1.25.

Temple Pink. Good bloomer. \$1.50.

White Attraction. \$1.25.

White Caps. (Fischer.) Very lively deep blue, prominently edged white. \$2.00.

White Corsage. Double pure white flowers. Shiny leaves. \$2.25.

White Madonna. New double white, with girl foliage. \$2.00. Small \$1.00.

Wintry Nite. Variegated foliage, medium blue double flowers. \$3.00.

Wintergreen. Variegated foliage, blue and white double flowers. \$3.00.

Leaves 50c ea. \$5.00 per dozen.

Apple Blossom	Bronze Fringette	Lacy Girl
Azure Beauty Improved	California Dark Plum	Lilac Time
Alma Wright	Christmas Star	Moonlight
Bavaria	Corsage	Moon Ripples
Beauty Girl	Double Lace	Orchid Geneva
Betty	Easter Bunny	Purple Lace
Black Fringe	Edith	Silver Moon
Blue Buttercup	Fantasy Supreme	Silhouette
Blue Ohio	Finlandia	Springfield Beauty
Blue Ridge	Fischer's Eclipse	Snow Line
Blue Triumph (dbl.)	Floradora	Starglow
Blue Warrior Supreme	Frosty	White Caps
Brenda Girl	Holly	

African Violet Leaves. 35c ea. 3 for \$1.00. 12 for \$3.00. Over 12 leaves, 25c ea.

America	Gypsy Apple Blossom	Pink Girl
Amethyst	Gypsy Ice Girl	Pink Lustre
Baby Blue Eyes	Gypsy Jewel	Poncho
Black Beauty	Gypsy Prince	Portland Rose
Blue Beau	Gypsy Queen	Purple Dawn
Blue Eyed Girl	Heart's Delight	Queen Betty
Blue Heiress	Helen Wilson Bouquet	Red Girl
Blue Jewel	Indianola	Red Lady
Blue Lady	Innocence	Red Moire
Blue Moire	Juno	Rose Crinkles
Blue Velvet	Lady Grace	Rose Marie
Blue Warrior	Lady Loreta	Royal Girl
Bronze Bicolor	Lavender Beauty	Royal Ripples
Bronze Girl	Lav. Pink Princess	Ruffled Beauty
Caracol	Lovely Lady	Ruby Bouquet
Charro	Marine	Ruby Jewel
Christina	Maroon	Sea Girl (Dbl.)
Delight (Dbl.)	Minuet Girl	Sherry Girl
Double Rose	Maro	Spoon Girl
Dupont Lav. Pink	Narbonne	Taffita
Dupont 1; 2; 4;	Navy Bouquet	Temple Belle
Evelyn Banks (Pink)	Norseman	Temple Pink
Evening Star	Oak Leaf Girl	Tear Drop
Evening Sunset	Opal Girl	Ted's Treasure
Fairy Boats	Orchid Wonder	Tom Thumb
Fairy Queen	Painted Ballerina	Twilight
Fairy Tales	Pansy Beauty	Velvet Girl
Gaucht	Perfection (dwarf)	Western Girl
Geneva Pink	Pink Attraction	Yellow Brown Girl
	Pink Delight	

THE ORCHID FAMILY — Orchidaceae

Cymbidiums and Cypripediums are easily grown in living rooms if humidity is increased by a method as we have advised for African Violets.

Cymbidiums are very useful for corsage flowers. We can supply the following: **Butterfly**, cream to tan; **Doreen**, greenish bronze; **Giganteum**, red-brown; **Moir**, greenish bronze, barred rose; **Winter Cheer**, bronze and deep rose. Price \$2.50 per front bulb with foliage. **Madeline**, deep pink, \$5.00; **Hookerianum**, olive green, \$4.00. **Assorted varieties**, unlabelled, \$2.00.

How To Grow Cymbidiums is told in our "How To Grow Orchids," a 10 p. pamphlet. Send 25c for it.

We ship Cymbidiums, loose roots, and out of pot only. By Express, f.o.b. Potted Cymbidiums do not travel well unless in an expensive crate. If you want them to come by mail, send 75c extra for extra heavy packing material and for postage. We ship by mail at your risk only so be sure to send the insurance fee, which will protect you. By mail you will save at least \$1.00 up to \$2.00 and we advise this if insured.

Cypripedium callosum. In shape, similar to our native Lady Slippers and closely related. Correct botanical name is Paphiopedilum but usually known as above. Flowers are fine for corsages. $3\frac{1}{2}$ "-4" wide, white variously marked with green and purple veins and a brown purple lip. Blooms about Jan. to Apr., sometimes later. The best potting mixture is osmundine and sphagnum, equal portions. Require deeper shade than Cattleyas and Cymbidiums. Shipped only in pot, by express, f.o.b. Price reduced to \$5.50.

Cattleyas. We offer fine hybrids and species, (only those species are included that produce fine flowers for cutting) that have been recently repotted in fresh osmundine. They will not need repotting for 2 or 3 years when they should be too large for their pots. Our selection of blooming size plants. Tell us what you have and we will not duplicate them. Price \$5.00, express, f.o.b. **C. Enid**, \$7.50, express, f.o.b.

There is good culture advice for Cattleyas in our 1947 Orchid Price List. Price 15c. The listings of Orchids are cancelled.

If you are experienced in potting Cattleyas we can send out of pot plants, our selection, 3 or more psuedo bulbs for \$4.00 postpaid. Unlabelled plants, \$3.50.

Bletilla hyacintha. Lovely hardy, terrestrial orchid. Corms should be planted about Nov. when dormant. The best soil contains much sand and peat. 8 to 12 lovely little purple orchids on a scape 15" tall. Price 40c. 3 for \$1.00. \$3.50/doz. postpaid. \$25.00/100 by express, f.o.b.

Culture of Orchids in this catalog is insufficient as several pages would be required. Unless experienced and need no further directions, send us 40c for our two pamphlets, "How To Grow Orchids" and "1949 Orchid Price List." The culture of several not listed here is explained.

Osmundine, best Florida brown grade, \$1.35/lb. postpaid. For scale on orchids, spray with Thrip O cide. See listing under Garden Supplies and for books on orchids see Garden Reference Books.

MISCELLANEOUS

Anemones and Ranunculus. Ranunculaceae. Anemones are mostly blue but some are red, pink, or white. The flowers of this strain are mostly single which we prefer in Anemones.

Ranunculus range in color from red, pink, yellow to white. This strain produces the largest and most double flowers.

Tecolote Ranunculus and Anemones, large size for growing in pots or in the garden. This size gives larger fls. on taller scapes and forces well in pots. Price, either Ranunculus or Anemones, 2 for 15c. 50c doz.

Culture. Hardy only in deep south. It is best to start after summer heat has gone—in mild autumn weather. They can be started here in a flat of moist sphagnum moss, or sand in the cool shade of a tree. Don't forget to keep them moist. Transplant to garden in deep south or to pots in north. You can start them or grow them in a cool room in the house in winter. They should have sandy soil with peat added.

Ctenanthe oppenheimiana, var. tricolor. Marantaceae. A beautifully colored foliage plant. The foliage is striped light and dark green on upper surface with a few white stripes and blotches. The under side is maroon. Grow in 5" pots, acid soil,—peat or sphagnum with sand. We will ship, out of pot, postpaid, for \$1.75, or in clay pots, by express, f.o.b., for \$1.75.

Maranta Kerchoveana. Rabbit tracks. Nice, easy-to-grow shade plants, for pots. Acid soil. 75c.

Ceropegia. The following are vines having long trailing or twining stems. They may be grown in soil composed of loam, sand and leaf mould or peat, in pots or hanging baskets. Plant at once and keep only slightly moist until started. The flowers are very unusual. Prices are for small tubers or cuttings.

Ceropegia Woodi. Hearts on a String. Sweetheart vine. Rosary vine. Heart shaped leaves. The most desirable species. 50c.

C. debilis. Cylindrical leaves. Rapid grower. 35c.

C. Barklyi (?). The oblong leaves are pointed at the apex. 60c.

THE PINEAPPLE FAMILY — Bromeliaceae

Bromeliads include Billbergia, Aregelia, Aechmea, and many other genera.

Billbergias are most unusual and fascinating plants. Not only are the flowers in intriguing pastel shades but the floral display is made brilliant by the large vividly colored bracts that cover the scape. The leaves form a rosette and are more or less rigid. Some have brightly colored leaves and others are often mottled, striped or barred. All are desirable foliage plants.

How to Grow Billbergias. All are tropical, or semitropical epiphytes and thus are hardy in outdoor gardens only in the deep south. But they are all easy to grow in pots and add distinction as well as beauty to the window garden.

In pots, they should have a soil of $\frac{1}{4}$ sand or sandy loam and $\frac{3}{4}$ peat, or leaf mould. There should be plenty of drainage material in the pot as poor drainage may soon destroy them. Do not overwater when first planted or in winter when semi-dormant. Nor should they become dry enough to shrivel the foliage. In hot weather when they are growing well water liberally. Keep a drink of water in their cups in the center.

In the outdoor garden they should have the same soil as recommended for pots. A few, like "nutans," will grow in nearly any soil but will do much better in the type recommended. They do well on the trunks of Palms.

They need about half shade. Too much sun will burn and finally destroy the foliage. Those species and varieties having highly colored foliage do not develop their rich colors when too deeply shaded. Most of our plants are grown in a well shaded Clivia house. When well established and growing, richer colors may be brought out by giving a little more sun than we do. **Culture** of Aechmea and Aregelia is the same.

Aechmea calyculata. Bright green leaves, yellow fls. \$2.00.

Billbergia Burkholtzi. Tall, slender, erect green leaves. Rose bracts, lavender fls. \$2.00.

B. distachia. Long, reddish green lvs., spotted cream. Rose bracts, blue and green fls. 75c.

B. Elvenia Slosson, (Nutans x Alberti.) Tall plant with very attractive flowers in spring. It takes a lot of postage and its fine quality makes it cost \$3.00 each.

B. nutans. Mid-winter, beautiful inflorescence on small plants. Fine pot plant. 75c.

B. nutans x Cryptanthus acaulis. Highly colored bronze and green leaves. Compact plant. \$1.50.

B. pyramidalis. Wide green lvs. Red fls. tipped violet, red bracts. \$2.00.

B. rubo-cyanea. Most colorful foliage, red and green spotted cream. Green fls. edged blue. Crimson bracts, \$1.00

B. speciosa. Green lvs., striped on back. Green fls., tipped blue, Rose bracts. \$2.00.

B. Theodore L. Meade. Green lvs. and large, beautiful inflorescence, continuous all year on new growths. \$1.50.

B. thrysiflora. (pyramidalis x amoena.) Finest hybrid. Beautiful inflorescence. \$1.50.

B. Zebrina. Lvs., banded white on back. Salmon bracts, green fls. \$1.50.

Collection all 12 varieties. Express, f.o.b., \$16.00. By this method we can send larger plants. By mail, postpaid, \$18.00.

Big 4 Collection. Nutans, Distachia, Rubro-cyanea and Zebrina. Value \$3.50. Price \$3.25. Include Special Handling for these plants by mail.